

The Mining Journal

RAILWAY AND COMMERCIAL GAZETTE

FORMING A COMPLETE RECORD OF THE PROCEEDINGS OF ALL PUBLIC COMPANIES.

No. 1712.—Vol. XXXVIII.

LONDON, SATURDAY, JUNE 13, 1868.

{STAMPED .. SIXPENCE.
{UNSTAMPED .. FIVEPENCE

MR. JAMES CROFTS, STOCK AND SHAREBROKER,
No. 1, FINCH LANE, CORNHILL.
(Established 1842.)

HOLDERS of mining shares difficult of sale in the open market may find purchasers for the same through Mr. CROFTS' agency. Also parties requiring advice how to act in the disposal or abandonment of doubtful mining stocks may profitably avail of Mr. CROFTS' long experience on the market in all cases of doubt or difficulty, legal or otherwise.

PROSPER UNITED.—These mines have now a parcel of tin (about 13 tons) for sale, and besides the late improvement in the 60 cross-cut and 50 west, other favourable changes are noted in this week's report. A limited number of shares for sale, at 9s. 6d. net.

Mr. CROFTS advises the purchase of **SUMMER HILL** and **WEST GONDOLPHIN** shares at the present low prices. **SPECIAL BUSINESS** in both these mines below the market quotations.

LILY SLATE QUARRIES (Pembrokehire).—FOR ABSOLUTE SALE (for executors)—75 shares, £3 10s. paid, at 27s. 6d. net. The produce of the quarries, which are in full work, is the celebrated green, which ranks at double the average price of blue slates.

TO INVESTORS.

The market has never been, during the last quarter of a century, in a more favourable position for BUYERS of mining shares, and, in particular, DIVIDEND STOCKS. Mr. CROFTS is prepared to furnish a list of the most substantial dividend mines, which will return at the present low prices from 10 to 15 per cent. per annum income, and also a list of the most promising and substantial progressive mines.

Bankers: National Bank of Scotland, 37, Nicholas-lane, E.C.

MR. JOHN BUMPUS, 44, THREADNEEDLE STREET,
has FOR SALE the following shares, free of commission:—
50 Anglo-Brazilian, 15s. 6d. 30 Gawton, 35s. 50 South Darren, 30s. 9d.
10 Clifford, 25s. 10 Gt. Retallack, £2 6s 3 25 South Grenville, 1s.
20 Chiv. Moor, £6 12s 6d 20 Gt. No. Laxey, 11s. 2 South Caradon, £39s.
30 Chontales, £1 18s. 9d. 20 Glasgow Carr, 18s 6d 10 St. John del Rey, £19½
20 Chontales Royal, 21s. 10 Gt. Wh. Vor, £15½ 2 Wh. Mary Ann, £22.
50 Don Pedro, £2 2s. 6d. 5 Herodfoot, £40½ 1 West Tolgus, £4s.
50 E. Carn Brea, 14s. 15 Marke Valley, £4 16s 3 25 Wheal Grenville, 30s.
10 East Caradon, £3½ 50 New Quebrada (£4 2 West Chiverton, £61½
20 E. Wh. Russell, 10s. paid, 7s. 3d. 100 W. Drake Walls, 7s 3d
50 E. Rosewarne, 5s. 9d. 30 N. Treskerby, 18s. 6d. 50 W. Pr. of Wales, 9s.
100 Frontino, 16s. 3d. 10 North Croft, £2 2s. 100 Wheal Crobar, 3s. 9d.
30 Frank Mills, 15s. 50 Prince of Wales, 45s. 1 Wheal Seton, £29½
10 Great Laxey, £17. 50 Providence, £26. 1 W. Wh. Seton, £290.
50 Pestarena, £2 11s. 3d.

GUIDE TO INVESTORS.—THE STOCK, SHARE, AND FINANCE REGISTER for June contains a comprehensive review of the Stock and Share Markets; a list of all the dividends paid in May; a comparative estimate of the profits of the several descriptions of shares; a selection of investments paying 10 to 22 per cent.; and information for intending investors.—6d. per copy, or 5s. annually, post free. Published by Mr. BAKER LEELEA, at his offices, 11, Royal Exchange, London.

MR. WILLIAM WARD,
STOCK AND SHAREDEALER,
No. 29, THREADNEEDLE STREET, LONDON, E.C.

MR. JOHN BATTERS, STOCK AND MINING SHAREBROKER, 13, THROGMORTON STREET, LONDON, E.C.

MR. WILLIAM SEWARD, STOCK AND MINING SHAREBROKER, 19, THROGMORTON STREET, LONDON, E.C.
Every description of shares BOUGHT and SOLD at the best market prices.

MR. THOMAS SPARGO, STOCK AND SHAREDEALER, 224 & 225, GRESHAM HOUSE, OLD BROAD STREET, LONDON, E.C.

MR. J. B. REYNOLDS, 70 and 71, BISHOPSGATE STREET WITHIN, LONDON, E.C., STOCK AND SHAREDEALER.
Established Eleven Years. Bankers: City Bank.

MESSRS. POWELL AND MOSS, SHAREDEALERS, 78, OLD BROAD STREET, LONDON, E.C., and Mining Exchange, have large transactions in British Funds, Railway and other Stocks, Foreign Bonds, &c., on the usual commission, 1½ per cent. on mining and other shares, above £2; and at £2 and under 6d. per share.
References exchanged. Bankers: City Bank, Finch Lane.

JOHN RISLEY, (SWORN) STOCK AND SHAREBROKER, 48, THREADNEEDLE STREET, LONDON, E.C.
Business transacted in British Funds, Railway and other Stocks, Foreign Bonds, &c., on the usual commission, 1½ per cent. on mining and other shares, above £2; and at £2 and under 6d. per share.
Bankers: London and Westminster, Lothbury.

WALTER TREGELLAS, 122, BISHOPSGATE STREET WITHIN.

MESSRS. WILSON, WARD, AND CO.,
STOCK AND SHAREDEALERS,
16, UNION COURT, OLD BROAD STREET, LONDON, E.C.
BUYERS of New Great Consols shares.

MR. JAMES HUME, STOCK AND SHAREDEALER, 74, OLD BROAD STREET, LONDON, and MINING EXCHANGE, Transacts BUSINESS in the following mine shares:—
Chiverton. Wheal Mary Florence. Wheal Mary Ann.
Chiverton Moor. East Caradon. Prince of Wales.
Crestor. East Lovell. South Condurrow.
East Grenville. Lovell Consols. Chontales.
Grenville. Cook's Kitchen. Don Pedro.
Great Retallack. Copper Hill. Rossa Grande.
Marke Valley.

A few of the above are specially recommended for a great rise, the outlay being small. Shares continued for the account, and every phase of business conducted. Mr. J. HUME'S "Circular" for June contains a Special Report of Wheal Mary Florence Mine (Limited), which promises to be the prize of the Eastern District.
Bankers: The London Joint-Stock Bank.

BARTLETT AND CHAPMAN, STOCK AND SHAREDEALERS, 2, BUCKLESDURY, LONDON, E.C.
Business transacted in every description of securities at closest market prices, free of commission.

We recommend the immediate purchase of Lovell Consols, Great South Chiverton, East Chiverton, Great Laxey, and Tamar Valley shares. Particulars and prices on application.
Our "Investment Circular and Financial Record," forwarded post free on application.
Bankers: London and Westminster Bank.

MR. WILLIAM MARLBOROUGH, 1, GREAT ST. HELEN'S, BISHOPSGATE STREET, LONDON, E.C. (Established 13 years), has FOR SALE the FOLLOWING SHARES, at net prices:—
50 Anglo-Brazilian, 14s. 6d. 20 Lucy Phillips, £4 14 6 2 W. Chiverton, £61 18 9
20 Chiverton. 30 No. Croft, £2 1s 9d. 50 W. Pr. of Wales, 9s 6d
10 Chiverton Moor, £63½. 20 New Lovell, 19s. 3d. 50 West St. Ives. 50
30 Chontales, £1½. 25 Prince of Wales, 43s. 20 Wh. Grenville, 29s. 9d
40 Calbeck Fells, 12s. 3d. 50 Pestarena, £2 8s. 9d. 1 Wheal Seton, £21.
50 Don Pedro, £2½ pm. 40 Prosper Unit, 9s. 6d. 5 W. Trelawny, £29 3
10 East Caradon, £2½. 60 Port Phillip, 32s. 3 W. Mary Ann, £22.
6 East Lovell, £7 18s 9d. 10 Rosewall Hill (offer wanted). 30 Worthing, 9s. 2s. 3d.
50 East Grenville, 32s. 9d. 20 South Darren, 31s. 30 Wheal Crobar, 2s. 3d.
20 Gawton, 40s. 10 Summer Hill, £5. 5 Wheal Buller, 3½.
3 Gt. Wh. Vor, £16½. 5 St. John del Rey, £18½. 20 Wheal Ury, 41s. 6d.
25 Gt. Retallack, £2½. 40 So. Condurrow, 9s. 3d. 5 W. Kty. (St. Ag.), £23½
50 Gunnislake (Chiv.), 27s. 50 West Caradon, £4 8s 9 50 Yudanumut, £1 18s 9
50 Great So. Chiverton. 10 West Gt. Work, £23 9

MR. GEORGE BUDGE, STOCK AND SHAREDEALER, No. 4, ROYAL EXCHANGE BUILDINGS, LONDON, E.C. (Established 20 years), has FOR SALE at net prices:—2 Minera; 5 Maes-y-Safn, £27; 90 Camborne Yenn, 6s.; 50 West Prince of Wales, 10s.; 50 Redmoor, 8s.; 20 South Herodfoot, 17s. 6d.; 100 Gwydyr Park, 4s.; 25 Prosper United, 10s.; 100 Wheal Crobar, 2s. 3d.; 50 West Tremayne, 9s. 3d.; 50 South Grenville; 1 Wheal Seton, £29½; 40 Grenville, 29s. 9d.; 35 Colquhoun and Callington, £2; 50 West Kity, 10s. 3d.; 100 Drake Walls; 50 Frontino and Bolivia, 16s. 4d.; 100 Anglo-Brazilian; 5 Mount Pleasant; 20 Great Rhoemor; 20 Cape Copper; 15 Llanes; 120 Port Phillip.
SPECIAL BUSINESS in Devon Great Consols, Maes-y-Safn, General Mining Association, Amlwch, South Caradon, Gawton, Don Pedro, West Gondolphin, Redmoor, and Wheal Kity (St. Agnes).

THE STOCK AND SHARE MARKETS.

The continuance of the present exceedingly brilliant weather, the increase of unemployed capital, and the consequent low rate of the Bank minimum, are still operating in a favourable direction upon almost all descriptions of Stocks and Shares; and there can be no doubt that, as the year advances, this long-looked-for reaction will steadily and materially progress. This fact must not be lost sight of, that values generally are, notwithstanding the present rise, yet far—very far—below that at which they stood prior to the panic from which we are just emerging; and as there is now a much healthier and sounder state of things prevailing our commercial, trading, and financial community than has been the case for many years past, there is every substantial reason for believing that every description of bona fide stock will progressively advance in price. The present opportunity should, therefore, at once be taken advantage of by all intending investors.

PETER WATSON, STOCK AND SHAREDEALER, 79, OLD BROAD STREET, LONDON.

CORNISH AND DEVON MINES.—FOREIGN GOLD MINES.

PETER WATSON'S "WEEKLY MINING CIRCULAR AND SHARE LIST," SYNOPSIS OF CORNISH AND DEVON MINES, of Friday, June 12, No. 483, Vol. X., price 6d. each copy, forwarded on application, contains information on the leading Cornish and Devon Mines, Foreign Gold Mines, &c.

INVESTMENT OR SPECULATION.—A SELECTED LIST OF RAILWAYS, BANKS, MINES, COLONIAL SECURITIES, FOREIGN GOVERNMENT BONDS, &c., forwarded to bona fide investors on application, in addition to the high rate of interest many of the above are paying, there is now every probability of a great rise in market value.

PETER WATSON, STOCK AND SHAREDEALER, 79, OLD BROAD STREET, LONDON (three doors only from Hercules-passage, entrance to the Stock Exchange). Twenty-three years' experience. (Two in Cornwall and Twenty-one in London.)

Bankers: The Alliance Bank, and the Union Bank of London. References given and required (when necessary) in all the principal towns of the United Kingdom.

MR. EDWARD COOKE, FOREIGN AND BRITISH MINING SHAREDEALER, 76, OLD BROAD STREET, LONDON, E.C.

Is a BUYER or SELLER of Don Pedro, Pestarena, Port Phillip, Rossa Grande, Anglo-Brazilian, St. John del Rey, Frontino, and Chontales, at market prices. Orders in same, either by telegram or post, will have prompt attention.

Satisfactory references given in any town in the United Kingdom. Bankers: Alliance Bank. A daily list of prices sent free on application.

MR. W. H. CUEL, (late of the firm of WATSON and CUEL), Has REMOVED TO 42, CORNHILL, LONDON, E.C.

MATTHEW GREENE, STOCK AND SHAREDEALER, 1, ST. MICHAEL'S HOUSE, CORNHILL, LONDON, E.C.
The shares in the following mines are worth buying at the present prices:—Tamar Silver-Lead, Montgomeryshire Lead and Barytes, New Clifford. Full particulars of the above on application.

INTENDING INVESTORS.—The "FINANCIAL GAZETTE," published by Mr. Y. CHRISTIAN, should be consulted with a VIEW to the SAFE EMPLOYMENT OF CAPITAL. It contains Original Articles, a Review of the Money Markets, and a selection of investments paying 10 to 17 per cent., and such information as is necessary to guide intending investors. 6, Bond-court, Mansion House, London, E.C. Bankers: Bank of England.

JAMES H. COCK, STOCK AND MINING SHAREDEALER, 61, OLD BROAD STREET, LONDON, E.C.
Fifteen years practical experience in Cornwall and London. **SPECIAL BUSINESS** in South Caradon, New Lovell, Chiverton Valley, Calbeck Fells, and West Drake Walls.

MR. T. ROSEWARNE, 81, OLD BROAD STREET, LONDON, E.C.
T. ROSEWARNE, having returned from his tour of inspection through Devon and Cornwall, is enabled to advise parties what mining shares they should buy or sell.

T. R. has SPECIAL BUSINESS in the following shares:—
Bedford Consols. North Treskerby. Anglo-Brazilian.
Bedford United. Great North Downs. North Devon.
Chontales. West Chiverton. Princess of Wales.
Chiverton Moor. Wheal Grenville. Wheal Seton.
Devon Consols. Prince of Wales. Gawton.
East Lovell. St. John del Rey. Gonamena.
East Carn Brea. Frontino and Bolivia. West Maria and Fortescue.
Marke Valley. Chontales. Rossa Grande.

I can recommend three mines which are safe for a great rise within the next three months. Money lent to any extent upon good mining shares. Bankers: Bank of England. Office hours 10 to 4.

MR. G. D. SANDY, STOCK AND SHAREDEALER, No. 48, THREADNEEDLE STREET, LONDON, E.C., TRANSACTS BUSINESS IN EVERY DESCRIPTION OF STOCK EXCHANGE SECURITIES, MINING AND FINANCIAL ENTERPRISES, at close market prices. Correct Daily Price List can be had on application. Money advanced to any amount on legitimate stocks and shares. References exchanged.

MR. D. STICKLAND, M.E., having had upwards of 40 years' mining experience in Cornwall, several years of which he has had the entire management of mines therein, enables him to GIVE GOOD ADVICE thereon. Mining, Railway, and other Shares bought, sold, or exchanged. Shares for sale in mines and quarries that will pay 15 to 20 per cent. per annum. Offices, 5, Finsbury-street, London, E.C.

MR. EDWARD BREWIS, PALMERSTON BUILDINGS, 34, OLD BROAD STREET, LONDON, E.C., has for sale free of commission, for cash or account:—10 Chiverton Valley, £4½; 25 Great Rhoemor, £4½; 50 Frontino, 17s. 3d.; 20 Prosper United, 10s. 6d.; 100 Gt. Alan, 6s. 3d.; 20 North Treskerby, 17s. 9d.; 12 North Croft, £2½; 5 South Darren, 12½; 25 Lucy Phillips, £4½; 50 Rossa Grande, £4 prem.; 20 Chontales, 39s.; 50 Mining Association, £2½; 2 West Chiverton, £63; 20 Cashwell; 100 Lovell Consols, £2½.
OFFERS WANTED for 50 Carnarvonshire Consols, 100 Great South Chiverton, 20 Chiverton United, and 100 Old Westminster.
Bankers: Alliance Bank, Lothbury, London, E.C.

References will be given to the Bank of England; Messrs. Hodgkin, Barnett, Pease, and Spence; and one of the oldest firms on the Stock Exchange.

INVESTMENT, LOAN, AND BANK AGENCY.

Established 1839. INVESTMENTS in PUBLIC SECURITIES may be effected by payments at intervals to suit the convenience of the Buyer, upon advantageous terms. **LOANS** granted, for one year or any shorter period, and renewable, if required, on Stocks and Shares having a market value. **FIVE PER CENT. INTEREST** allowed upon DEPOSITS of all amounts withdrawable at one month's notice. The Finance Agency of Foreign Governments, Municipalities, Public Companies, and Money Agency Business generally undertaken. Terms of business forwarded, post free, on application.

RICHARD TAYLOR AND COMPANY, No. 12, Clement's-lane, Lombard-street, London, E.C.

ANGLO-BRAZILIAN, CHONTALES, DON PEDRO, FRONTINO, AND ST. JOHN DEL REY GOLD MINES.

THE SUBSCRIBERS are Dealers in the Shares of the above Companies; and, also, in PRINCE OF WALES SHARES at close market prices, free of commission, either for Money, Account, or time on to suit the convenience of Buyers.

RICHARD TAYLOR AND COMPANY, Investment Loan and Bank Agency, 12, Clements-lane, Lombard-street, London, E.C.

M. R. CHARLES THOMAS, MINING AGENT, GENERAL SHAREDEALER, AND AUCTIONEER, 3, GREAT ST. HELEN'S, LONDON, E.C.

Third Edition, price One Shilling; post-free, fourteen stamps.
MINING FIELDS OF THE WEST: A PRACTICAL EXPOSITION OF THE PRINCIPAL MINES AND MINING DISTRICTS OF CORNWALL AND DEVON. Published by CHARLES THOMAS, At No. 3, Great St. Helen's, London, E.C.

MESSRS. LANE AND GIBBS, 2, ROYAL EXCHANGE, LONDON, E.C. (Members of the Mining Exchange), STOCK AND SHAREDEALERS, transact business in all kinds of securities at closest nett prices for cash or account. **SPECIAL BUSINESS** in East Caradon, Snaefell, Great Laxey, and Minera shares, for cash, or the fortnightly settlement. Daily price list on application. Bankers: London and County Bank.

MR. HENRY MANSELL, STOCK AND SHAREDEALER, No. 44, THREADNEEDLE STREET, LONDON, E.C. References Exchanged.—Member of the Mining Exchange. Bankers: London Joint-Stock Bank.

TRUMPET CONSOLS (TIN) MINE.—WANTED TO PURCHASE, SHARES IN THIS PROPERTY. Sellers will please state number and lowest price for cash to—
GRANVILLE SHARP AND CO., SHAREDEALERS, 32, POULTRY, LONDON, E.C.

WHEAL EMMA MINE (BUCKFASTLEIGH).—SIXTY SHARES FOR SALE. All calls paid. An offer wanted. **GRANVILLE SHARP AND CO., SHAREDEALERS,** 32, POULTRY, LONDON, E.C.

NANGILES MINE.—WANTED TO PURCHASE, FIFTY SHARES, or any less number, for cash. Sellers please state number and lowest price (all calls paid) to Mr. WILLIAM POTTER, Forest Lodge, Queens-road, Reading, Berks.

MR. E. MANUEL BEAZLEY, STOCK AND SHAREDEALER, 3, CROWN COURT, THREADNEEDLE STREET, LONDON, E.C.

MR. THOMAS THOMPSON, MINING OFFICES, 12, OLD JEWRY CHAMBERS, LONDON, E.C.

MR. E. J. BARTLETT, STOCK AND SHAREDEALER, AND FINANCIAL AGENT, No. 30, GREAT ST. HELEN'S, LONDON, E.C., has SPECIAL BUSINESS, as a BUYER or SELLER of SHARES, in West Gondolphin, Ury, Don Pedro, Summer Hill, Minera, and East Caradon. * Buyers or sellers of West Gondolphin and Summer Hill shares should address the above for information, &c.

Established Fourteen Years.
MESSRS. WARD AND JACKMAN, STOCK AND SHAREDEALERS, No. 1, CUSHION COURT, OLD BROAD STREET, CITY, E.C. Members of the Mining Exchange, London.

Closing prices, Friday Evening, June 12:—
Anglo-Brazilian £ 2 to £ 3½ North Wheal Croft £ 2 to £ 2½
Cargill 20 " 22 Prince of Wales 42s " 44s
Chontales 17½ " 17½ Providence 22½ " 25
Chiverton Moor 6½ " 6½ Rossa Grande (prem.) 18 " 17½
Don Pedro 2½ " 2½ South Wheal Croft 12 " 14
East Basset 9 " 11 South Wheal Frances 17½ " 18½
East Caradon 3½ " 3½ St. John del Rey 18½ " 19½
East Grenville 30s " 35s Trumpet Consols 12 " 13
East Lovell 7½ " 8½ West Chiverton 61 " 63
Frontino and Bolivia 15½ " 17s West Prince of Wales 36 " 38
Great Laxey 12½ " 12½ West Wh. Seton (ex div.) 192½ " 197½
Great Retallack 2½ " 2½ Wh. Emily Henrietta 36½ " 37½
Great Wheal Vor 16 " 16½ Wh. Kitty (St. Agnes) 21 " 22
Marke Valley 6½ " 6½ Wh. Mary Ann (ex div.) 21 " 22
North Downs 22s 6d " 27s 6d Wheal Seton 77½ " 82½
North Roscar 13 " 15 Wheal Trelawny 84 " 94
North Treskerby 15 " 18 Yudanumut 14½ " 2
Messrs. WARD and JACKMAN are DEALERS in all the above at the close market price of the day.
Messrs. WARD and JACKMAN will forward a correct list of closing prices and statistical information GRATUITOUSLY on application.
June 12. Bankers: London and Westminster, Lothbury.

MR. R. TREDINNICK, CONSULTING MINING ENGINEER, CROWN CHAMBERS, THREADNEEDLE STREET, LONDON, E.C.

MR. J. N. MAUGHAN, STOCK AND SHAREBROKER (Member of the Stock Exchange), No. 2, COLLINGWOOD STREET, NEWCASTLE-ON-TYNE. Transacts business in Railways, Funds, and every description of Mines. Bankers: Messrs. Lambton and Co.

JAMES SCOTT AND CO., STOCK AND SHAREDEALERS, 1, PINNER'S COURT, OLD BROAD STREET, LONDON, E.C.

CHONTALES GOLD COMPANY.—FULL PARTICULARS of the DIFFERENT CLASSES of SHARES can be obtained on application to Mr. J. H. MURCHISON, No. 8, Austinfriars, E.C.

RAILWAY SHAREHOLDERS, or those thinking of becoming so, should READ HANNAM and Co.'s JUNE CIRCULAR, free by post from either of their offices,—449, STRAND, LONDON, W.C., or ROYAL INSURANCE BUILDINGS, MANCHESTER.

FOREIGN STOCKHOLDERS, or those thinking of becoming so, should read HANNAM and Co.'s JUNE CIRCULAR. **ANGLO-AMERICAN OR ATLANTIC CABLE STOCKS.**—All interested in these undertakings, or about to become so, should read HANNAM and Co.'s MARCH and APRIL CIRCULARS, as well as JUNE CIRCULAR.

GOLD AND SILVER MINING.—All interested, or wishing to become so, in undertakings of this character, should read HANNAM and Co.'s JUNE CIRCULAR. Investments may now be made on peculiarly favourable terms in Idaho and Nevada respectively, the richest gold and silver producing districts as yet discovered. The properties noted have been carefully selected and reported on by tried and well-known English agents, and will yield early returns.—Full particulars with JUNE CIRCULAR on application.

MISCELLANEOUS SHARES.—All investors with spare capital and capable of taking advantage of the opportunities afforded by a panic stricken community, should make careful selections of shares now selling at far below their real value. For particulars see HANNAM and Co.'s JUNE CIRCULAR, which may be had at either of their offices, 449, Strand, London, W.C., exactly opposite Charing-cross Station and Hotel, or at Royal Insurance Buildings, Manchester.

MATTHEW FRANCIS, MINING ENGINEER, DESIGNS MACHINERY FOR MINES, AND LAYS OUT CHARTS FOR THE UNDERGROUND WORKINGS. ADVISES as to the FUTURE of LODES from their nature and character, as seen in their surface indications, &c.

APPRAISES MINES by the VALUE of the ORE GROUND. ADVISES as to the APPLICATION of the BEST and MOST MODERN COMBINATIONS of MACHINERY for the PURPOSES of DRAINING, WINDING, CRUSHING, and CLEANSING ORE.

He believes in mining as a certain and scientific pursuit, not as a lottery or enigmatical theorem depending on the chapter of accidents for success. MATTHEW FRANCIS has worked a great number of mines to a profitable issue, frequently after they had been given up by his predecessors, or worked abortively—such as Wheal Carolina Copper, in Cornwall; the Aron Copper Mines, in Venezuela, now called the Quebrada; the Logyias and Cwm-y-with Lead Mines, and the Goginan, Darren, and other Silver-Lead Mines in Cardiganshire.

MATTHEW FRANCIS maintains that if mining be treated fairly, with sufficient capital, there is no branch of industry known that produces such large and steady profits on the outlay, as witness the continued prosperity of some of the largest mining houses, established for fully half a century. Terms for inspection of mines or designing machinery moderate; to be addressed, by note, to him at the MINING JOURNAL Office, 26, Fleet-street, London.

Original Correspondence.

THE DOUBLE AND SINGLE SHIFT SYSTEMS.

SIR,—Amongst the petitions recently presented to the House of Commons is one stated to emanate from "the colliers of Monmouthshire," and, no doubt, representing the opinions of some few of them, praying the Legislature not to sanction the introduction of the double shift, or North Country, system of colliery working into South Wales until the petitioners have had an opportunity of giving evidence against it. That there is some justification for the prayer must be acknowledged by all who admit the principle of the views of all classes being fairly represented, but the advantages to be obtained from the double shift system are so numerous and so important that there should be no unnecessary delay in making its general introduction compulsory. The vastly greater safety attending the double shift system was carefully pointed out by Mr. J. Nixon in his letter of Nov. 20, and in the long period of more than six months that has elapsed no argument has been brought forward to disprove his statements. The opposition on the part of the men seems to have arisen from the erroneous idea that the sole object of the change is to enable the masters to obtain larger profits in the same time, although in truth no additional profit could be realised, except that resulting from the absence of accidents, and of the attendant stoppage of the workings. It was stated in the *Mining Journal*, commenting upon Mr. Nixon's letter, that the task he had undertaken was a difficult one, but I think few acquainted with the relative merits of the systems supposed that so much time would have been required to effect the change.

As to the relative safety of the two systems, Mr. Nixon declared that the effect of the change would be to reduce the number of deaths to nearly one-half, and we will presently enquire how far this statement was justified. He explained that the double shift system was in universal use in the Northumberland and Durham coal fields, and that he had long been endeavouring to introduce it into South Wales: in the northern system there are two relays, or shifts, of men, working seven hours each; the first shift leaving the face of the works when the second shift commences work in the places vacated. In South Wales, and in all other districts in Great Britain, except Durham and Northumberland, there is, however, only one shift, and, consequently, all the colliers and workmen employed go down the pit in the morning, and remain until the day's work is finished at night. When, therefore, an explosion occurs in a colliery worked on the short hour, or double shift principle, only about half the number of victims are exposed to destruction, as what there would be under the long hour or single-shift system. All who know the two systems will fully agree with what Mr. Nixon says, and many will be inclined, moreover, to go very much further. If it were only a question of killing the men by tens and twenties, the aggregate number of deaths being the same for each 10,000 tons of coal raised, the proposition would be of little importance, for, although it must be admitted that a greater sensation is produced by the sacrifice of five two hundreds than of two hundred lives, the misery created amongst widows and orphans would be the same in both cases, or, indeed, perhaps greater in the less sensational casualties, because such accidents do not procure an equal amount of sympathy and pecuniary aid from the public.

But Mr. Nixon pointed out that in every respect the double shift is equally advantageous to master and man. There is a much better supervision of the colliery, from the thorough organisation arising from a perfect division of labour, which makes every officer, and almost every workman, personally responsible for any neglect or carelessness. The coal getter is employed exclusively in cutting coal, and has nothing to do, as in the single shift, with examining the roof of the mine, setting timber, laying railway, &c.; so that with ordinary exertion he can earn as much wages in seven hours with the double shift as he can get in eleven or twelve hours with the single shift. There is, however, no time for idling; he must keep vigorously at work, for he is perfectly aware that his comrade of the second shift will turn him out and take possession of his place, at the expiration of the first shift. Now, then, as twice the quantity of coal, as Mr. Nixon says, is got out of such working place with the double as compared with the single-shift during the twelve hours the pit is at work, only half the extent of pit room is required. The advantage of this extends to every part of the working, the safety and comfort in every part of a double shift pit being so apparent that, although a northern man feels it most depressing to work in a South Wales pit, complaint is never heard against the double shift system from those who have been accustomed to the single. The opinion of Mr. Nixon's own men prove this; those who were sent to the North to see how they liked the system gave a most encouraging account, and it was thought at the time that the change would have been at once made; although obstacles were raised which prevented Mr. Nixon carrying out the humane idea he had in view. He says—

"One would think that the advantage to the collier of spending half his day above ground could hardly be overrated, in addition to the privilege of being half his time out of the reach of accidents, and earning the same amount of wages in the short as in the long hours of labour. I deeply regret to say that such is not the case. The prejudices of the collier in favour of the old single shift system is so great that every effort on the part of my firm hitherto has proved unsuccessful. I sent down some of our most intelligent workmen to the North of England, who remained at those collieries until they had an opportunity of thoroughly learning every part of the double-shift system. When they returned they wrote me a report, approving of it in all its details. They explained all particulars to their fellow-workmen, recommending them to adopt it, but without the least success. We have some 1000 or 1200 workmen employed in our collieries, and out of that number we could not induce 20 to make trial of the short-hour, or double shift, for a period of two months, although on the condition that if not approved of by them at the end of that time it should be discontinued. It may be said that we ought to enforce the system. My reply is, no individual proprietor can do so, and I question whether any number of proprietors in any single locality have the power. In fact, nothing short of the whole of the iron and coalmasters of the district entering into a combination and arrangement to stop their works in case the double shift is not agreed to by the colliers will ensure its introduction, and I despair of getting unanimity where there are such numbers to deal with."

For the present, however, I will assume that the men only earn the same amount of money under the double shift system as they would under the single shift, in order to reduce the argument for or against it entirely to the question of safety, for I suppose it will be acknowledged that if the result of a comparison of the accidents and deaths in the Northern coal field and in South Wales be that, considering the number of tons of coal raised, the loss of life is materially smaller in the former than in the latter, the change from the single to the double shift system is worth making. I will take the official returns published in the *Mining Journal* of Nov. 16 last as the basis of my calculations, and I will observe, looking roughly at the figures, it will be seen that whilst compared with South Wales three times the weight of coal is raised from the Northern coal field, only twice the number of deaths occur; so that it would appear that coal mining in South Wales, where the single shift system is used, is 50 per cent. more calamitous than in the Northern district, where they work the double shift. But that the advocates of the respective systems may have the precise figures to guide them, I subjoin a tabulated statement, showing the separate accidents and number of deaths resulting from each 1,000,000 tons of coal raised:—

SEPARATE ACCIDENTS.					
	Northern district.		South Wales.		
	1865.	1866.	1865.	1866.	
Explosions of fire-damp	0·366	0·194	0·703	0·853	
Falls of roof and coal	1·911	2·062	6·317	5·119	
In shafts	0·976	0·778	1·999	1·599	
Miscellaneous	0·619	0·778	4·806	4·479	
Total	6·872	6·812	13·831	12·050	
DEATHS RESULTING THEREFROM.					
Explosions of fire-damp	0·732	1·245	5·392	1·386	
Falls of roof and coal	1·851	2·179	6·799	5·226	
In shafts	0·976	0·817	1·999	1·599	
Miscellaneous	0·655	4·085	4·806	4·486	
Total	7·318	8·326	18·537	12·707	

	SEPARATE ACCIDENTS.		DEATHS RESULTING THEREFROM.	
	Northern district.	South Wales.	Northern district.	South Wales.
Explosions of fire-damp	0-732	1-245	5-392	1-386
Falls of roof and coal	1-361	2-179	6-799	5-226
In shafts	0-976	0-817	1-999	1-599
Miscellaneous	0-619	4-085	4-806	4-486
Total	3-318	8-326	18-537	12-797

It would be difficult to find anything more conclusively in favour of the double shift system than these figures. Taking the separate accidents, it is found in doing the same amount of work they were twice as numerous in the single shift district as in the double shift district; and in this comparison all kinds of accidents are taken, so that the vastly greater danger of the single shift system is not brought prominently forward. It could scarcely be supposed that the system of working would have so great an effect upon the accidents from miscellaneous causes, yet the figures show us that with the single

shift system they are, in round numbers, 25 per cent. higher than with the double shift system. As to explosions of fire-damp, they are four times as numerous with the single shift as with the double shift system. In 1866, which was an especially good year in South Wales, and unusually bad in the Northern district, the number of deaths from explosions was 10 per cent. more in the former than in the latter, and in the previous year they were nearly eight times as numerous in South Wales as in the North. So, also, the total deaths in South Wales are from 50 to 300 per cent. per annum higher than in the North, estimated according to the 1,000,000 tons of coal raised.

But lest it should be said that explosions, shaft accidents, and miscellaneous accidents do not afford the best criterion of the merits of the systems, and that the variation in the figures might result from bad mechanical arrangements for drawing, and from fiery seams, let us examine the figures for falls of roof and coal, the accidents and deaths from which must, it will be admitted, depend entirely upon the system of working. What do we find? The separate accidents from falls of roof and coal were in 1865 nearly three and a-half times as numerous in the single shift district as in the double shift district; and even in 1866 they were two and a-half times as numerous in the former as in the latter. With regard to the number of deaths the figures are equally unfavourable to South Wales, the deaths being likewise three and a-half times two and a-half times more numerous than in the double shift district.

Surely when we have such facts before us the petition of a few uneducated colliers should not suffice to prevent legislation on the subject; and I believe that when the change is made none will be more thankful for it than the colliers of South Wales. In advocating the compulsory introduction of the double shift system, I cannot do better than refer to your comments on Mr. Nixon's letter, where you explain that he proposes to render compulsory the change in the system of working throughout the collieries of Great Britain, with the exception of Durham and Northumberland, by advocating legislation to enforce the adoption of the double shift system in every colliery liable to give off explosive gases, and remark that great as is the change proposed, there can be no doubt that its desirability will be so apparent that legislation upon the subject will quickly follow. The double shift system is, as he very truly says, equally advantageous to master and man—the former gets his pit better and more safely worked, and the latter, with ordinary exertion, is enabled to earn as much in seven hours with the double shift as in eleven or twelve hours with the single shift. Numerous are the advantages which Mr. Nixon has pointed out in his letter, there is one which, although inferior, is not specially referred to, yet it is probably greater than any which he has named—no working place is left continuously in the care of one set of workmen. With the single shift system the men are too apt to devote all their attention to sending up a quantity of coal, even to the neglect of the necessary consideration of the state of their working place; but if two sets are working alternately, each will take care that the previous one has left everything in proper condition. Until now the double shift system, although its universal introduction has been frequently suggested, has never, beyond the counties of Durham and Northumberland, received the attention it deserved; but it may now reasonably be hoped that, by rendering its adoption compulsory, the advantages derivable from the system will be extended to every colliery in the kingdom. H.

Aberdare, June 9.

THE NORTH STAFFORDSHIRE COAL FIELD—No. II.

SIR,—In the Journal of May 9 a general description of the coal field was given. The part near the outcrop of the lower seams is nearly all occupied, except, as stated, a portion from Silverdale Works round to Longton, and another portion in the neighbourhood of Whitfield. The lower seams are the most valuable, both for ironmaking and general purposes; they are as yet untouched in the inner part of the coal field, but as their depth towards the centre will be very great expensive sinkings will be required to reach them. As the seams are considered to improve in quality as the depth increases the working of these will, no doubt, be undertaken, and be a source of profit at some future period. The following are the seams of coal and ironstone found in North Staffordshire, as given in Mr. Homer's section:—

1.—Blackband or half-yard ironstone	Thickness 1 ft. 6 in.	4
2.—Red shag ironstone, 4 ft. thick; ditto coal, 1 ft. 9 in.	5	9
3.—Red Mine ironstone, 2 ft. 3 in.; ditto coal, 2 ft.	4	3
4.—Coal	1	8
5.—Coal	1	0
6.—Coal	2 ft. 0 in.	0
7.—Bassy Mine ironstone, 4 ft.; ditto coal	2 ft. 0 in.	0
8.—Little Row coal	2 ft. 2 in.	1
9.—Peacock coal	5 ft. 8 in.	13
10.—Spencer coal	4	0
11.—Gubbin ironstone, in bands	3	0
12.—Great Row coal	9	0
13.—Cannel Row coal	6	6
14.—Wood Mine coal	1	0
15.—Pennystone ironstone, 2 ft. 9 in.	1	0
16.—Deep Mine ironstone, 0 ft. 10 in.; ditto coal, 3 ft. 0 in.	5	10
17.—Chalky Mine ditto, 1 ft. 3 in.; ditto coal, 1 ft. 4 in.	4	3
18.—Brown Mine ditto, 0 ft. 8 in.; ditto coal, 1 ft. 0 in.	4	3
19.—Bunglow coal	3	1
20.—Coal	1	0
21.—Little coal	2	2
22.—Winghay or Knowles coal	5	0
23.—Winghay or Rusty Mine ironstone	1	0
24.—Bilby or Brown Mine ironstone, 6 in.; do. coal, 1 ft. 6 in.	2	0
25.—Coal	1	6
26.—Four-foot coal	2	9
27.—Rowhurst or Ash coal	10	6
28.—Burnwood ironstone, 1 ft.; ditto coal, 5 ft. 3 in.	6	3
29.—Twist Coal and Cannel	3	6
30.—Coal	1	0
31.—Coal	1	0
32.—Birchwood coal	5	3
33.—Mossfield or Easing coal	4	0
34.—Coal	2	3
35.—Coal	2	3
36.—Yard coal	3	6
37.—Ragman or Birches coal	4	6
38.—Rough seven-foot or Old Whitfield coal	4	3
39.—Stony Eight-foot or Bellingers coal	4	6
40.—Ten-foot coal	7	0
41.—Bowling Alley or Magpie coal	4	6
42.—Holly Lane coal	5	0
43.—Sparrow Butts coal	5	0
44.—Ironstone coal	2	6
45.—Coal	2	0
46.—Seven-foot Nabbs, Bambury or Frogrow coal	7	0
47.—Eight-foot Nabbs, or Cockhead coal	8	6
48.—Bulhurst coal	9	0
49.—Winpenny coal	3	0

There are twenty-seven of these which may be considered as workable seams, including four small ones, which would be worked in conjunction with ironstone—their aggregate thickness is 136 ft. 3 in.; and ten workable beds of ironstone, of an aggregate thickness of 21 ft. 11 in. The total measures, including these and the intervening strata, are 1308 yards in thickness, from the Half-yards to the Winpenny coal. It should be observed the seams vary in thickness considerably in different localities of this field: at the eastern side of it the Winghay coal is 6½ ft. thick; the Burnwood coal, 3 ft.; the Twist coal, 3 ft.; and the Rowhurst coal, only 3 ft. 9 in. thick. The intervening strata vary in like manner. In the same district, at one colliery, the Rusty Mine ironstone is 1 ft. 6 in. thick, and produces 34 per cent. of iron from the raw stone; the Brown Mine is 14 in. thick, and produces 31 per cent. of iron; the Burnwood Mine is 15 in. thick, and produces 35 per cent. of iron from the raw stone.

The usual method of working the coal and ironstones in North Staffordshire is to drive the levels out first, to the boundary or to a certain limit, and work back by long work. In the light dips (about 9 in. per yard) 60 yards is generally got in one breadth; to recover another breadth another pit is sunk, 60 yards from the former one: this has been the custom where the pits are shallow. As the depth increases this cannot so easily be done, and greater breadths will have to be taken, to be worked either by a series of inclines, or by the system adopted in the steeper measures (15 in. to 24 in. per yard), where, from the main levels, a pair of places are driven up to the rise, 150 yards or more, either to the boundary or to a former working: these places are driven 160 yards apart on the main level. As soon as the rise places have reached their limit the coal is commenced with to be worked back, first, by driving levels on each side of the main dip, 80 yards in, and 10 yards apart. The coal between these levels is worked back by long work. There are generally three of these levels going at once on each side of the main dip, and as each level has its own jig or incline to the lowest one, where they all unite, and

are sent down to the main dip and on to the pit without any transfer of coal, this system gives facilities for sending away large quantities of coal. It is likewise safe, for, as the working proceeds from the top downwards, any gas which may be produced is either carried off by the currents of air or rises into the goaf above the working places. An air-way is generally left round each section of the work, so as to ventilate the goaf as it progresses downwards. The coal is worked downwards to within 40 yards of the main level, to protect it until the time arrives for its being worked back. Where the dip is about 9 in. per yard, as before stated, the pits are 50 or 60 yards apart; the levels are driven out from these to the boundary, and the coal between worked back by long wall. The face may be in the direction of the line of full dip, in which case small curves are used to bring the coal to the bottom of the drift, where it is transferred to tubs, which carry it to the pit; or, if the seam is sufficiently high and roof good, the rails may be laid along the face, which is kept in a half-course direction; the tubs are then taken along the face and to the pit without any transfer of coal. In the case of a colliery in the Tunstall district these tubs carried 5 cwt. of coal, and were taken along the roads by boys. The mines worked at two pits were the Burnwood ironstone, the Burnwood coal, 2 yards below, and the Twist coal, 8 yards below the Burnwood coal. The Burnwood stone and coal were worked in conjunction—i.e., the face of work in the coal was kept a few yards in advance of the stone, which not only facilitated the working of the latter, but preserved the coal from injury. It was found best, also, to work the Burnwood coal and Twist coal back at the same time; if the Burnwood was much in advance of the Twist it caused a crush on the Twist, quite as much as if the Twist had been in advance of the Burnwood coal. The Burnwood, being only partially filled up in its goaf, sometimes only one-half being pillar, and the other waste, allowed the floor to rise in the goaf and the strata underneath, reaching to the Twist coal. This it is well to avoid in either case, as, especially in seams where there is not rubbish sufficient to stow them close, as with the two in question, an extra cost will be incurred for pit wood, the coal will be deteriorated in point of size, and the working of it attended with more danger to life and limb. The ventilation of the Twist seam is effected by a split of the air from No. 1 or the deep pit, taken along the levels to the drifts or walls on each side; it is taken up an air-way at the far side of the walls, and back by the working face, which may be two, three, or four walls, of 10 yards width each, there being a corf-road to each wall. The air is then carried to the upper levels, which it ventilates in a similar way, and returns up the No. 2 or upcast pit. In this seam the walls are generally carried up on the full rise, on account of its being thin, and its roof bad. The gas produced is liable to lodge at the working face, or close behind it, and a fall in the goaf is apt to send it out suddenly; in this view the other plan of working from the top downwards is to be preferred.

June 9.

M. B. GARDNER.

THE SHROPSHIRE COAL FIELD—No. VII.
FORMATION AND DENUDATION OF STRATA.

SIR,—The coal and ironstone measures of this field present very many features of interest if we examine them in detail. The latter furnish us with specimens both of the fauna and flora of the far-off period in which they were formed, whilst, in many instances, the former consist, to a great extent, of the seed-cases of the plants which produced them. The clod coal, one of the lowest and most persistent coals over a wide surface, and from the great blast it bears, by far the best coal for ironmaking in the Shropshire field, is a remarkable instance of this. On examining it last week at Caughley we found layers almost entirely made up of small circular bodies, of a brown colour, undoubtedly the seed-cases of plants. We have previously found them in large numbers in the underlying shales, together with the roots and stems of the plants themselves. Some of these spores are coloured by the coal, and some are filled with a black oily matter derived therefrom, whilst others appear unaffected by the coal, and are of a rich brown colour. Some are open and empty, others are partially filled with a bright orange or amber-looking resinous substance. The outside are on one side plain; on the other they are imbricated, and have triangular markings. Mr. Prestwich, whose very able paper on the Geology of the Coalbrookdale Coal Field contained so much information at a period when so little was known by the public respecting it, not only observed, but figured, some of these disc-like capsules, and Mr. Carruthers, F.L.S., of the British Museum, in an illustrated paper contributed to the "Geological Magazine," appears to have thrown a good deal of light upon their character. We have found them, either in the coals themselves or in the basses and shales associated therewith, in every instance in which we have searched for them—in the little flint coal, the clod coal, the Randle coal, the Ganey coal, the two-foot coal, the sulphur coal, and the big flint coal. And, although we have not found them in association with fossil ferns, we have found them frequently in company with *Stigmarias*, *Sigillarias*, and *Lepidodendrons*; also with plantansvering precisely to a new genus, which Mr. Carruthers has figured in the paper above referred to under the name of *Flemingites*.

In looking over the coal field, too, the other day for materials for these articles we came a second time upon some beautiful specimens of *Lingula*, associated with bones, teeth, and scales of fish, in a black shale, which we had not previously remarked upon, on account of some doubt as to its relative position. We now ascertain from Mr. Mathew Garbett, mining agent at Mrs. Seymour's works, and also from the reeve at the Lodge Pit, where we found them, that the bass containing them intervenes between the pennystone and sulphur coal. Meeting with this beautiful little tongue-like shell, which has lived on from early Silurian times to the present in this coal field, was like meeting with an old friend after a long absence. We have found kindred species—as stated by Sir R. I. Murchison in his last edition of "Siluria" (pp. 69, 246, and 549)—in the Lower Caradoc or passage-beds, between the Llandeilo and Caradoc beds at Couand, and in the passage-beds between the Upper Ludlow and Old Red Sandstone, at Linley, but had not during a search lasting over twenty years before found even a specimen in the Shropshire coal field; still Mr. Prestwich had stated in his paper that they existed in the pennystone and in the top coal shale: they are also mentioned by Mr. Salter as having been found in the bass over the Blackstone coal, higher up.

In our last we referred to the fact that the ballstone ironstone was as rich a repository of the extinct flora of the coal period as the pennystone is of its fauna. We might add of ferns only it contains seven species of *Pecopteris*, four of *Neuropteris*, seven of *Sphenopteris*, eight of *Lepidodendron*, and four of *Asterophyllites*. Amongst them are the characteristic ferns *Pecopteris lonchitica* and *Pecopteris oreopteris*, *Neuropteris Loshii*, *Neuropteris gigantea*, *Neuropteris Soretii*, *Sphenopteris dilatata* and *Sphenopteris multifida*, *Lepidodendron Harcourtii* and *Lepidodendron elegans*. Besides these, two species of *Bruckmannia* and two of *Beckera*, coniferous wood, with its pith, usually called *Sternbergia*, its fruit *Trigonocarpon*. Probably there are also leaves allied to the *Salisburia*, viz.—the *Cyclopteris*, often regarded as a young fern. There are four species, or perhaps varieties, of these *Antholites*, a flower, or buds of coniferous branches, and a curiously-twisted fruit, known as *Carpolites helictoides*, we have frequently found in these productive nodules. The *Neuropteris* and *Calopteris* insects found some years since are also believed to belong to this band.

Seven feet of fine argillaceous sandstone and 6 ft. of clay at Wombridge, or 11 ft. of the former and 10 ft. of bass at Donnington, next introduce us to the Brick Measure, an ironstone occurring in flat cakes, with smooth surfaces, and of a brown or chocolate colour. It cleaves into regular brick-like masses—hence the name—resembling very much the white flats of South Staffordshire. It is, however, a measure of secondary importance in a commercial point of view, and contains but few fossiliferous remains. The following measure at Wombridge intervenes between the Brick Measure and the Blackstone ironstone:—

	Yds. ft. in.
Grey rock—Light-grey fine sandstone	1 1 0
White clunch—Blackish-grey clay	1 1 0
Gur coal—Not got	0 2 0
Tough poundstone—Black slippery clay	1 0 0
Stone coal—Good coal	1 1 0
Blackstone	1 1 0

The Blackstone yields about 1500 tons to the acre, and is highly valued as one of the materials for making the "best best" cold-blast

iron. It is an ironstone of a dull lustre and irregular fracture, but having smooth, shining, and very black surfaces above and below the nodules, and contains numerous impressions of the rootlets of *Stigmairia*, with impressions of other plants; it also contains remains of fish and a few shells. The following is an analysis by J. Spiller (No. 177 of the Illustrated Catalogue of the Iron Ores of Great Britain, in the Memoirs of the Geological Survey), or rather of the results tabulated:—

Protoxide of iron	48.28
Protoxide of manganese	0.82
Alumina	0.67
Lime	2.26
Magnesia	1.83
Carbonic acid	32.93
Phosphoric acid	0.26
Sulphuric acid	0.10
Bisulphide of iron	0.19
Water, hygroscopic	0.24
Water, combined	0.62
Organic matter	0.62
Ignited insoluble residue	11.19=100.00

The following measures succeed at the Lodgewood Pit, north of Donnington:—

Yds. ft. in.	
Foot coal	0 1 6
Coal poundstone and ragged robins	9 1 7
Fungus coal	1 0 8

The Fungus coal, now usually called the Marquis's coal, from the fact that it is chiefly worked by the Lilleshall Company, who have a monopoly of it on the Marquis of Stafford's estate, is a coal of great commercial value; a great deal is sent direct from the pit's mouth to local markets, where it fetches a good price. Above the Fungus coal we have in the shaft last referred to at Donnington the following measures, which introduce us to the top or chance pennystone:—

Yds. ft. in.	
Base	0 0 0
Dunearth	1 0 5
Rock	7 2 3
Metals	2 0 0
Seven-yard rock	6 2 0
Small sulphur coal	0 0 6
Chance pennystone	2 0 0

This ironstone, as the name implies, has always been found to be irregular and uncertain; it was confined to the south of the field, like the others already described in this article, and is now, we believe, entirely exhausted. It is interesting to the geologist, from the fact that, occurring as it does at an elevation of something like 200 ft. above the main pennystone, it is distinguished by the same appearance, and characterised by pretty much the same remains. This is the last of the productive measures of what is understood as the Coalbrookdale Coal Field, and from 50 to 70 yards of alternating sandstones, marls, and clays, the latter becoming more red and green as we ascend, with a chance coal, 9 in. thick, between two beds of blackish clay, terminate the series, and bring us to the surface. Other coals occur south of the Severn, but their relative position in the series of measures has not yet been satisfactorily ascertained. It is probable that they are of subsequent formation to most or all of the coals already noticed, and that they belong to a period which succeeded the destruction by denudation over a very wide area of a vast amount of mineral wealth. They consist only of three or four seams, and occur as a sort of carboniferous fringe to the Old Red Sandstone, the Ludlow, and, in some instances, to the Cambrian formations. We shall abstain from noticing them until we have glanced, in our next, at the causes and extent of such destruction.

JOHN RANDALL, F.G.S.

BLAST-FURNACE TUYERES.

SIR,—Amongst the recent inventions patented in connection with blast-furnaces is one by Messrs. Barrett and Martin, of Norton, Durham, according to which it is proposed to adapt the circulating system to the cooling of the tuyere; but, although I am quite willing to admit the theoretical correctness of the principle, I hardly think it will prove all that is desired. Their object is to construct tuyeres which will possess greater durability than those hitherto constructed, and, at the same time, be free from certain other objections and disadvantages. There is, doubtless, much truth in what they say with regard to previously constructed furnace tuyeres; they have depended for their preservation upon the supply of water to the nozzles by a simple fall, but practically it has been found that the head of water necessary to secure the flow of water has not been attainable, or that, from other causes, it does not flow in sufficient quantity through the coil of pipe of which the coil is made, and, consequently, the nozzle is burnt through by the heat of the furnace, and water discharged upon the molten contents, the result being both inconvenience and danger in the working of the furnace.

To remove these objections, Messrs. Barrett and Martin keep the water for cooling the coil in an endless coil of tubing—that is to say, the pipes are arranged as flow or return pipes, and commence at, and return to, any convenient positions, at which they are connected together, and placed in the form of a coil or otherwise in a cistern or reservoir of cold water. When required for use the pipes are previously charged with water, such space as may be necessary for its expansion being left therein. As the water passes down the flow-pipes to the nozzles it becomes heated, and rises again through the return pipes; and, having been cooled by passing through the cistern or reservoir of cold water, again descends, the tuyere pipes being thus charged with a constantly circulating current of water. They consider it preferable to use distilled water for charging the pipes, in order to prevent incrustation, which would impede the flow. Of course this arrangement would possess some advantage, but to provide piping of sufficient length would be very costly, and, I think, it would be found impracticable to keep the water in circulation sufficiently cool to effect its object.

H. C. D.

MECHANICAL VENTILATION.

SIR,—In all the discussions I have read in the *Mining Journal* concerning the introduction of fans the argument used against their substitution for furnaces has been that they are only applicable to shallow mines, and I presume that the basis for this assertion is that there is a difficulty in pumping air beyond a certain distance, just as there is a difficulty in pumping water beyond about 32 or 33 feet by suction. If this be so, I scarcely think the objection would apply to the latest designed fans of Mr. Lemelle, for his object has been so to construct them that they are equally applicable to forcing the air into the mine, and to its extraction by suction. It will be recollected that in the original machine there was a hexagonal case, with three flaps or doors, working eccentrically in an outer case, the doors forming perpetually advancing pistons. It was found that in practice there was some slight inconvenience arising from the leakage of air into the eccentric cylinder, whence it returned to the mine.

Although the loss of air was by no means large, the efficiency of the ventilator was, of course, interfered with. To remove this inconvenience means have been devised to render the ends of the revolving cylinder air-tight. There is attached to the upper covering of the ventilator a circular trough, in the shape of a U, with one leg shorter than the other. This trough he fills partially with water, and round the upper end of the eccentric cylinder he fixes a circular rim, also in section like the letter U, but inverted, so that one leg is affixed to the cylinder and the other leg thereof dips into the trough affixed to the covering of the ventilator; the water in the said trough prevents the passage of air. In the same way the lower end of the eccentric cylinder dips into a U-shaped trough filled with water. When the cylinder cannot be set vertical, the ends are made air-tight by means of a ring or cylinder of wood within each end of the rotary cylinder, and connected thereto at its inner end by a ring of leather or other elastic air-tight material. Suitable springs force the wooden rings against the cover and bottom of the ventilator, and prevent the passage of air; and the elastic material, whilst it prevents the passage of air between the wooden ring and the rotary cylinder, allows the said ring sufficient play to insure its close contact with the covering. The connecting-rods from the central shaft of the ventilator to the outside ends of the vanes pass through apertures in the revolving cylinder. He renders the said apertures air-tight by means of rectangular valves constructed of wood. The upper wooden valve being shorter than the lower one, is covered with leather, overlapping to the size of the lower valve. The valves are hinged above and below the slots. Springs attached to each side of the lower valve draw it upwards, and cause it to press against the connecting-rod, and the

upper valve by its weight presses upon the upper side of the connecting-rod, and the two valves close upon the connecting-rod like lips, and prevent the passage of air; or the slots through which the connecting-rods pass may be made air-tight by means of a suitable slide-valve covering each of the slots, and sliding to and fro with the said connecting-rods, which pass through them.

There can be no question that some such contrivance as this is necessary to prevent the leakage of air when three vanes only are used; but it occurs to me that Mr. Lemelle might still further improve his apparatus, and accomplish the same object by less complicated means, if he were to construct his fans with six vanes, and connect those opposite each other by flat metallic bands passing through the centre of the eccentric cylinder. There can be no necessity for carrying the shaft entirely through, whilst it will be seen that by this means the rods, which now cause the inconvenience, may be altogether dispensed with, and the machine rendered very nearly perfect.

Durham, June 8.

COLLIER.

THE BATTLES OF THE FUTURE—FIGHTING LOCOMOTIVES.

SIR,—The writer of the paragraph under this heading, in last week's *Journal*, has evidently been under the quite erroneous impression that the various diagrams contained in the pamphlet* on "armour-plating" were all intended to illustrate one kind of (in that case not only complicated and expensive, but, as any technically educated mind would see, simply impossible) armour. But the fact of the case is that the diagrams are meant to illustrate six different shapes of armour-plates, for composing six different and distinct kinds of armour, adaptable for either fortifications or floating structures of various kinds. My chief aim in all the designs has simply been to apply to armour-plated structures the same unquestionably sound principle which is constantly being acted upon by engineers, builders, and other constructors—viz., the principle of giving to iron and steel, wherever employed, such shapes as to obtain from a given weight of metal the greatest possible strength and service; the which principle, however, in the butt-joined armour, which is now in fashion, has been and is being ignored. My improved armour, now, does not only present to hostile shot a solid front of iron, without a vestige of a bolt-hole or other source of weakness in that front, but all the composing plates are so firmly and intimately bound to each other that the cohesion of the whole armour is not only quite independent of any back-structure, but, in addition, helps, in a very considerable degree, to bind and hold together any structure afloat or ashore which it encloses—so that, with such armour, we may not only dispense with a great deal of expensive internal fastenings, but also obtain, in any structure of a given size, far more internal space, circumstances which will considerably tend to counterbalance the greater expense involved in manufacturing the improved plates. As for the "Fighting Locomotives," which appear to have amused the writer of the paragraph, I find that, after stating (in the introductory remarks) that "very probably greater improvements in protective armour would gradually lead to a more extended and varied employment of steam-propelled machinery for performing a variety of work connected with warlike operations"—I, at page 6, stated that, "considering the immense saving of muscular labour which had already been effected everywhere by the steam-engine, it could not be difficult to realise in our mind's eye the vast field of enterprise which, by the employment of armour-protected steam-power, would be opened for the exercise of engineering ingenuity and talent in the designing and carrying out a variety of locomotive structures for offensive and defensive purposes, and for performing work connected with siege and field operations;" and only then, and as one of those probable results, I alluded to the "fighting locomotive." At page 10, I suggested that steam rams also should be subjected to previous practical tests as to their efficiency, and, after stating that such practical trials, by their results, would afford "most valuable information on many points of the highest importance in naval architecture and naval warfare," I said that "another result of such experiments might possibly be the discovery that in the case of armour-ships which *receded a certain size*, the beaks, or spurs, which in present ram-ships protrude from the bows below water * * * might be altogether dispensed with, and their place be taken by strong vertical edges of iron or steel, and that ships of the Hercules or König Wilhelm I. class, furnished with such crushing edges, would run down any ship afloat without the need of their present shape of bows not quite *improbable*—risk of getting entangled with and endangered by their sinking adversary." And here, in a footnote, mind, I ask, "Might not, under certain circumstances, small but very long (say cigar-shaped) steam-rams prove very useful?" The "armour-plated watch-towers" mentioned in the paragraph are alluded to also *merely* in a footnote, at page 14.

The above will enable you, Sir, and your readers, to form a correct opinion as to the merits of the paragraph alluded to, founded as it is merely upon a sentence in the introductory remarks, and upon two footnotes, of my pamphlet; and, as the above lines contain a few suggestions on a, just at present, very important subject, I trust I may be pardoned for having so far encroached upon your valuable space.

London, June 8.

G. J. GUNTHER.

* "Armour-Plating; with a Description of a New System of Iron or Steel Armour" (with diagrams). By G. J. GUNTHER. London: Effingham Wilson.

AIR-COMPRESSING MACHINERY.

SIR,—In connection with the efforts at present being made to introduce coal-cutting machinery, the importance of a cheap and ready means of compressing air is generally acknowledged; a brief reference, therefore, to the invention of Mr. Frederic Seiler, of Berne, Switzerland, will not be uninteresting. Mr. Seiler's present hydro-pneumatic apparatus is an improvement upon one previously invented by him, and now employed in connection with the Mont Cenis Railway, both for supplying the compressed air for the rock-breaking machines and for renewing the air in the tunnel. The apparatus at present in use is single acting, and is thus constructed. An annular pit, of masonry or sheet-iron, is filled with water, into this an inverted bell or cylinder is made to dip. In the centre of the air-vessel top is fixed a piston-rod or plunger, which reaches downwards into a hydraulic cylinder placed in a chamber formed by the inner side or wall of the annular pit. The bottom of the hydraulic cylinder is connected direct with the water-supply pipe. On the top of the air vessel is formed a tank, which is weighted with water to the extent corresponding to the desired air pressure. When water pressure is admitted under the piston of the hydraulic cylinder the air vessel is raised from its pit and fills with air admitted through a suitable suction valve; at the end of the stroke the water supply to the hydraulic cylinder is stopped and the escape opened, whereupon the weighted air vessel will gradually fall, thereby compressing the air contained in it and forcing it through a suitable valve and pipes to the desired place. In order to keep up a uniform supply of compressed air two or more apparatus are employed, acting alternately.

The apparatus which it is now proposed to introduce resembles in its action, the air cylinder and piston of an ordinary blowing engine. The lower end of the air cylinder forms the outside of an annular pit, and the inner side of this annular pit is formed by a second inverted cylinder of smaller diameter, which forms at the same time the bottom of the air cylinder. The annular pit is filled with water, into which a third inverted cylinder or air vessel is made to dip. This air vessel forms the piston of the air cylinder, and is provided with a piston-rod secured to its top and passing downwards through a stuffing-box in the cylinder bottom, and through a second stuffing box into a hydraulic cylinder placed in the centre of the chamber formed by the interior of the air cylinder bottom. At the lower end of the said piston-rod is fixed the hydraulic cylinder piston. The hydraulic cylinder is fitted with a slide or other valve arrangement, by means of which the water is admitted and again discharged at both ends of the cylinder alternately, in the same manner as steam is in a steam cylinder. In the top and bottom of the air cylinder suction and pressure valves are fitted, the latter leading by pipes to an air accumulator. The air accumulator consists in an inverted cylinder or vessel of sheet-iron, again similar to a gas-holder, which stands in a pit filled with water. On the top of the vessel a tank is formed for holding the water by which the vessel is weighted to the desired air pressure. The compressed air enters by a pipe passing through the bottom of the pit and reaching above the water level, and

a second pipe, similarly placed, conducts the compressed air from the accumulator to its destination.

Now, although this apparatus was designed more especially for working in mountainous districts, I can see no reason why it should not be found equally applicable when steam-power instead of water-power is the motor used. The great object for securing the success of all the coal-cutting machines is to supply them with an abundance of compressed air at a low price, and as Mr. Seiler's invention has really been in practical operation, I should be inclined to place much more confidence in it than in projects which only promise to prove of some utility.

H. R. K.

MINING ON THE RHINE—No. III.

SIR,—The basaltic rocks and volcanic remains so abundant on the right are rarely found on the left bank of the Rhine, the most northern being the grand mountain up-heave of Siegburg, 150 feet, rising abruptly from the plain, and crowned with the "Lunatic Asylum," once the Abbey Church and Monastery. A few miles southward are the picturesque Siebengebirge, the characteristic loveliness of which district is partially attributable to the basalt—

"Wild rocks, shaped as they had turrets been."

Two miles south-east is the Saint Josephsberg Mine, and adjacent are the Marienberg and the Clementslust, the geological features of which demand separate notice. These mines are in the metamorphic or transition rock, "that home of the metallic sulphurets," as Overman in his practical and interesting work styles it. The first authentic record of Saint Josephsberg is that before the year 1640 it had been extensively worked by shallow adits, that a cross-cut adit was in that year commenced, which in 526 lachters* drivage intersected the main lode in A.D. 1694, at 40 lachters deep. Since that period it has been driven 125 lachters, and, by its extension, in about six weeks the rich deposit of ore, more than 200 lachters, seen in a shallow adit, and stoped to surface, will be cut 20 lachters under that level. In Saint Josephsberg every variety of copper ore known in Germany has been found. The rich copper glance, or Redruthite, containing 70 to 75 per cent., the grey copper, of from 30 to 40 per cent., and the copper pyrites, of from 25 to 30 per cent., are in large, well defined and continuous lodes; whilst native copper, red oxide, black oxide, hydrosilicates, carbonate of copper, or malachite, and the phosphates and chlorides, in all their beautiful variety of colour—from the brilliant red to the velvet black, from the beautiful green to the sky-blue—are also found. In this mine seven large lodes have been intersected. Six of these occur in one stratum of spar, which runs nearly north and south, and underlies west about 2 ft. in 6, as do all the lodes which are imbedded in it as a matrix. In an early visit the principal inspecting agent, the King's Toller, and the formerly managing agent of Marienberg, now of Saint Josephsberg, were in the hotel with me, and subsequently the representative of the mine was introduced, and the books, returns, official reports, and every conceivable facility for obtaining correct information, were most courteously placed at my disposal.

From the completion of the deep adit, in 1694, to the Peace of 1815 the mine was worked as continuously as intestine wars and foreign invasions would permit, but many and long were these interruptions. After the Peace the working was resumed, and the discovery of the processes for reducing low-priced copper ores by means of the muriatic and sulphuric acid processes, patented by Herr Rhodius, and worked at the Star Works, near Luis, not far from the mine (see the *Mining Journal* of May 23, p. 370), by creating a market for the poor ores, gave a great impetus to the works, and the mine was actively prosecuted until the year 1852, when the Duc de Morny purchased the concessions for a quarter of a million of thalers. Up to that period the mine had been worked by means of one main shaft (the Alexander), with a double-action 12-horse power pumping and winding engine only. A company was formed, a new drawing engine erected, the drawing shaft sunk to the 30 lachter under adit, with skip, &c. A Langeri, or reducing works, for the acid reduction process, with the necessary roasting ovens for preparing the ores, store houses, shops, stables, agents' and workmen's houses, large room, 50 by 70 feet, for cleaning ore, and all the appliances for a large mine, were completed; and so successful were the operations that the purchase-money and all the outlay, with a good profit, were returned: still the little 12-horse power engine was the only pumping power on the mine; therefore, the shafts could not be sunk nor the levels extended. About 1860 a large proportion of the shares were purchased by Prussians, and the usual squabbles arose, the French desiring to erect a more powerful pumping-engine, the Germans pursuing their usual too cautious policy. The French element disappeared, and the mine was brought to a standstill in 1867, "the eyes having been picked out" in the years 1865 and 1866, a period during which the Prussian paper thaler (3s.) sold on the Rhine for 20 groschens (2s.).

POSITION OF THE MINE WHEN STOPPED.—The Government inspecting agent reports on the deepest part of the mine—"The present position of the working on the south lode is—three winzes have been sunk under the 40 lachter, or deepest level, and the lode to the depth of 5 lachters, for 22 lachters long, entirely worked away; the leader of grey ore is in this place from 1 to 1½ ft. wide, pure grey sulphuret of copper, and the north and south ends were, when the mine was stopped by the influx of water, both rich." This working under foot the report describes as an "unrighteous robbery committed on the mine." He further reports—"The north lode, in driving south, is 5 ft. wide, 2½ ft. being clean copper pyrites, of very rich percentage, and the remainder mixed with spar." Further, that "a cross-cut has been driven west 12 lachters, through the channel of spar before referred to, from the 40 lachter level, and four lodes cut, varying in width from 1 to 1½ lachter; that Nos. 2 and 4 lodes have each a leader of rich ore, fully 1 ft. wide, the rest of the lodes, and Nos. 1 and 3 lodes, being mixed with spar, but paying work." The shoot of grey ore referred to, when cut in the 10, was 1½ lachter long; in the 20 it had increased to 9, in the 30 to 20, and in the 40 to 26 lachters long, and had returned when the water broke in 139,320 thalers worth of ore. The shute of ore on the north or pyrites lode was when cut in the 10 lachter level 2 lachters, in the 20 lachter level 14 lachters, in the 30 lachter level 24 lachters, and in the 40 lachter level 37 lachters long, and returned 57,750 thalers. The entire cost of the mine in the time occupied by returning this ore was 140,000 thalers, including the sinking Regnet's shaft, extending the deep adit, and all other work, management, &c., so that these two little shutes of ore left a profit of 8640½ 10s.

The report says, "The workings prove beyond all doubt, not only that the lodes continue in depth, but that the ore ground lengthens, and that the ore is richer in quality than in the shallower level." Should these shutes of ore continue, as there can be no reasonable doubt that they will, the returns above the 85 lachter level will be over 1,000,000 thalers, whilst the cost of an 80-in. cylinder engine, 16-in. pitwork, sinking the two shafts, driving cross-cut and other levels, stoping, &c., cannot amount to 150,000 thalers, leaving a clear profit on this part of the mine only of 127,500½; this leaves entirely out of the accounts the ore discovered in the shallow adit under Leopold's shaft. The four lodes, averaging 7 to 10 feet in width, paying work, and Nos. 2 and 4, having each a leader of copper ore of 1 ft. wide, of the average produce of 15 per cent., intersected by the 40 lachter level cross-cut, in 12 lachters of drivage westward, nor the nine productive ends, of which the want of pumping power has compelled the suspension for years. There is in every probability that this mine, now in its infancy, being only 40 lachters under adit, which has returned enormous profits, will immediately resume its position as the richest copper mine in Germany.

About half a mile beyond the northern boundary of Saint Josephsberg these great lodes come in contact with the basaltic rocks of Siebengebirge, and are lost. Southward of Marienberg the lode is also split up, and valueless. In notice No. 1 mention was made of the presence of basalt in the Marienberg Mine. In this, subsequent investigation, induced by the comparison of the ores in the two mines (Marienberg being yellow sulphuret of copper, of the average produce of 13 to 15 per cent.) led to the discovery that this information was incorrect, and that the channel of basalt, when it struck the great quartz dyke before referred to, entered that channel and accompanied the lodes, influencing materially the percentage of the ores by its proximity. To account for this no theory is propounded, but it may be remarked that lignite coal improves in texture, density, and colour

* A lachter is 6 feet 10½ inches.

as it approaches basalt rock. If your correspondent, Mr. N. Ennor, can explain this he will confer a benefit on your readers; if not, let him pass it on, as question No. 45, to Prof. Smyth, Hunt, and Co. It now only remains to be seen whether or not the German company will carry out this work with spirit and energy. That with these prospects an English company would erect sufficient pumping power, and work with vigour, admits of no doubt. A CORRESPONDENT.
Dona, June 10.

COPPER MINING IN ST. DOMINGO.

SIR.—Within the last two years there has been discovered and partially explored in this island one of the finest copper-bearing districts in the world. The discoverer, General W. L. Cazneau, late United States Envoy to St. Domingo, has obtained a concession for the district, and will, doubtless, shortly reap his reward for his untiring and ceaseless exertions. The point at which he has commenced operations is on the River Nigua, a considerable stream, emptying into the sea about 14 miles south-west of St. Domingo city. This point is 26 miles west of the city, the nearest port of shipment, and whence General Cazneau has obtained a concession for a road, now in course of construction, with the right of converting it into a tram or railway. The mine is situated on a huge vein running north-east and west, outcropping in a cliff by the side of the river; at the surface it is 120 ft. wide, and split up into numerous little branches, containing copper and iron pyrites. The hanging wall dips north 62° and the foot 54°, causing the vein to contract 20 feet for every 100 in depth, thereby bringing all the branches together, so as to form a solid lode. The vein has been traced, and 3 miles to the westward it outcrops again to the eastward; it is stopped by a dyke of limestone, about 2000 yards from the present shaft. In a small trial shaft sunk by the proprietor at the end of a 66-feet drift, along the hanging wall, a branch 18 in. wide was discovered at no greater depth than 3 fms., from which a few tons were extracted, and sent rough without picking or dressing to New York to be assayed, some of the rocks weighing from 60 to 70 lbs. According to one assay, by Adelberg and Raymond, the ore contained—copper, 26.73 per cent.; iron, 33.75 per cent.; and sulphur, 33.15 per cent. Another by Secor, Swann, and Co., in which 100 lbs. were smelted, gives 19 lbs. of copper, 244 grs. of silver, and 12 grs. of gold. Value of gold and silver per ton of 2000 lbs., \$23-20. These results were sufficiently encouraging to warrant the sinking of a shaft 12 ft. by 7 ft. on a level place the other side of the cliff, calculated to cut the hanging wall in 20 fms., which has just been commenced, and from which, I have no doubt, large quantities of ore will be extracted.

The district, moreover, has great advantages in the abundance of timber and water-power, the Nigua falling 60 ft. in the mile, and at the height of the dry season never less than 30 ft. wide. The provisions of the country are cheap—beef selling at 2d. and 2½d. per pound, pork at 3d., and vegetables at reasonable prices; the expensive articles being imported provisions, such as flour and salt pork. Men can be boarded as well as it is possible in these countries for 3½ per head per month. All tools, implements, &c., connected with the mine are admitted free of duty. Native labour costs 2s. or 1s. 8d. per diem, according as the work is in the mine or outside. The population is thin, and not much to be depended on. There is, however, a prospect of a gold excitement being got up in New York for the upper waters of the River Taina, where gold has been washed since the days of Columbus, if not before, which if successful will bring any quantity of intelligent labour into the country. The climate on the hills is luxurious in the extreme, the copper district being about 500 ft. above the level of the sea. The thermometer seldom rises to 90° in the shade; the humidity of the atmosphere in these islands tempering the heat met with in the same latitude on the main land, the rains coming on when the sun approaches this latitude. The Dominican natives, one and all, have the most profound respect for the educated white man, so that he be not a Spaniard, as they have a vivid recollection of the miseries they endured during the Spanish occupation, and subsequent revolution, between 1861 and 1864. The late revolution, which I expect will be the last, was a very harmless affair, the total loss of life being one. Except the trouble of obtaining passports, foreigners could pass in and out, even while the city was in a state of siege. A. P.

REFORM IN MINING.

SIR.—The flutter in the metal market suggests the heat-drops before the piteous thunder shower, and should admonish us, with other things, that the list of working Cornwall and Devon Mines, now published in the *Mining Journal*, is less by half what it was some years ago, and that the present is the time for the re-adjustment of the terms on which land and mining rights might be acquired by the adventurer. As matters stand they are not to any man's liking, unless in the exceptional cases of highly prolific mines that, relatively to their production, are worked by a moderate outlay. Such mines always prosper, and their prosperity points to an interesting subject of discussion in economic science that just now may be passed by. To the majority of mines encouragement is wanting, not of the airy, unsubstantial sort, as speaking well of them or writing well of them, but in the solid form of concession by the owners of the soil, and of investment by the still full-handed English public. Why the public should withhold their means from mines is, in the language of a late and celebrated West-End character, "one of those things that no fellow knows." They are as imperishable as Consols; and, when well chosen, as they may be, they are incomparably more profitable. Moreover, they are real, while Consols are unreal; they are immutable, while Consols in principal and dividend are subject to peculiar, and, as it may yet prove, serious perturbation. Round Consols there is a mist of forces adversely operative to the holders—a growing disposition among the lower orders to make out what is meant by "capital"—not, be it remarked, for the mere sake of enlightenment, but that they may be able to dispute its claim to perpetual reward; a tendency to a lower level for the price to be paid for money, which suggests an eventual lowering of the dividends; and last, that money, by reason of the excessive and continued production of the precious metals, will not recover its former command over household and other necessities. These, as yet, are mists, but being so is no reason that they should be unnoticed. About mining there is an unclouded sky; a fair future, no possible embarrassment from a diminution in the purchasing power of coin, from a lower rate of interest, or from prominence to vagaries respecting "capital." From each and all of these dangers mining is exempt; and, therefore, it has a special claim on the consideration of the investing public. While Consols are mere transfers from one name or account to another in the books of the Bank of England—a mere sale and purchase of the book debts owing by the nation—mining property may be grazed upon and handled. A man with an interest in a mine may take the train to view it, and any suggestions he may think fit to make respecting it are sure to receive respectful consideration. At all times, as in all states of society, the miner will be regarded as a public benefactor—a man who supplies the raw material of some of our greatest industries; but when the organic political changes that have been already wrought, and are still in progress, are regarded seriously, who will say—especially in the presence of the frequently recurring advocacy of the repudiation of the public debt of the United States—that the day may not come (a lamentable day, indeed, it would be) when here, and on the Continent, the public creditor will be regarded as a public enemy. A great deal more of the permanent investors of the country should really make choice of mines.

As regards the encouragement that should be given by the owners of the soil there is little to be said that is new. Elsewhere, in my "Mining Fields of the West," I touched on that subject with some fulness. There I gave the impression, or desired to give it, that the mining history of the country partakes generally of this character—with, of course, numerous honourable exceptions—that the lords, as the owners of the soil, exacted from the first the lion's share, and since have only abated in their demands in a reluctant, half-hearted sort of way. Instead of being the promoters and encouragers of mining enterprise, they, too often, have proved a drag and hindrance to it. Instead of comprehending this, that metals hidden in inaccessible lodes in the bowels of Cornwall and Devon—but only inaccessible by reason of the discouragements of the lords—are practically as worthless as similar lodes on the more inaccessible shores of Lake Superior. It is the merest nonsense to talk of husbanding our mine-

wealth, to hand down tin, copper, coal, and the rest to succeeding generations. A more rational course would be to look to ourselves, and to allow succeeding generations to look to themselves, for we must remember that physical science is still in swaddling clothes, and that little, if anything, is yet known of the electrical and magnetic forces of the earth. Who knows that combustion may not yet be sought by another agent than coal, and that a better knowledge of the fusion of metals may not hereafter bring into use metallic compounds that will modify the demand for all other metals? "Sufficient for the day is the evil thereof." The time has indeed come when the lords of the mines should make common cause with adventurers and with the public. Earth should be coerced into giving up its treasure. Dead rent should be abolished, dues should be reduced, and the unfair charges for destroyed land should be considered. After these there would follow the subject of a better supply of materials for the miner, and the not less important subject of the general management of mining property. CHARLES THOMAS.
3, Great St. Helen's, E.C., June 10.

AFFAIRS OF LA PLATA.

SIR,—I had intended to let the discussion with Mr. Nolan end with my last letter, as it is evident he and I view South American politics through very different spectacles; as, however, I do not wish him to misunderstand me in any way, I write again. In the first place, how was Dr. Francia placed in power by the will of the people? Universal suffrage, as understood in the United States and in Europe, is quite unknown in Paraguay; and for ought I know, the words may not be in any Guarani dictionary. I do not say that he did not rule by the will of the people, only that they were not asked. Again, I did not say the Paraguayans were unhappy; a despotism when properly administered is, I doubt, the form of Government best suited to render any people happy, but I for one would prefer to be unhappy under a free one. The present and future prospect of the Paraguayans do not seem to indicate such happiness, for if the war goes on we shall soon see what were once 2,000,000 people reduced to two, "are under contract," allowing that their contracts have not expired, building fortifications in a time of peace, and repairing the same when damaged by an enemy's guns, is a very different thing, and I should think any lawyer would allow a contract void. When I spoke of boundaries, I alluded to the immediate cause of the war, and by no means intended to recede from my first proposition, that Brazil is fighting for the free navigation of the Plate, as she did some years since against Rosas with Paraguay, then on her side (as far as regards the part of the river below the confluence). Whatever pretext Lopez hinged his quarrel on, Brazil did not lift a finger against Paraguay till that she considered her boundaries were invaded by Lopez without any formal declaration of war. Lopez has himself to thank that the Argentines are against him, as he showed his contempt for international law by violating their territory in carrying out his raid on Brazil. I did not say that the product of the war carried on for the benefit of Lopez. I questioned certain industries, especially importing and exporting, being carried on by private enterprise—in point of fact, denied that they were so carried on. Mr. Nolan cleverly tries to twist my negative into an affirmative, but does not exactly succeed. Let him mention any London house that any Paraguayan one (not in Government interest) draws upon, and I shall stand corrected. I am asked why Flores was driven out of Uruguay? My answer is that the South American Republics understand liberty to mean liberty of license without any constitutional check, and that they will elect a President one month, and upset his Government the next. President Mitre, perhaps as liberal and talented a President as the Argentine Confederation could well have, has had during this war to put down revolution by force, and he is now threatened with impeachment. Well and good; that will be a constitutional method, but usually this is much too slow a process in South America, and they sadly want some power to act as a policeman, and say—So long as you arrange matters quietly I will not interfere, but revolution shall be put down by force. When President Mitre's term is up I should not be surprised if Buenos Ayres secedes from the Confederation, makes peace with Paraguay, and closes the river below the confluence, with the consent of Paraguay, for the time being, but decidedly not with the consent of Brazil. With regard to the Amazon, Mr. Nolan is determined to impute bad motives, even to the liberal actions of Brazil, and when she makes vast concessions says "It is a trick," and cries more! Well, all in good time; but Brazil does not want Peru, Bolivia, New Granada, and Venezuela, all jealous states, against her at the same time as Paraguay. It shall not be my fault if those mythical gentlemen, the liberal Paraguayans, do not see the correspondence, and no doubt they will be able to defend their own characters.—June 2. JOSIAH CHILDS.

ST. JOHN DEL REY MINE.

SIR,—Your correspondent, "An Investor," in last week's *Journal*, states "that estimates made on the spot, and confirmed by the highest authorities here, show that the cost of sinking two new shafts to the old workings would only be from 30,000l. to 33,000l." Will "An Investor" kindly inform me what foundation he has for this statement?—when the estimates were made on the spot?—and who the "highest authorities" to whom he refers? For in the absence of this data his unsupported statements are to be taken just for what they are worth. It is a very fortunate circumstance "An Investor" avows the fact that he has only very recently become a shareholder, "because he could not refrain from buying a few shares when he observed the fall in price represented a depreciation of half-a-million;" for, had he not been so ingenious, his subsequent statement would have been quite incomprehensible; I mean that with reference to "rapidly running a timber tunnel through the loose debris." Without staying to point out the utter impossibility of carrying out such a work, I would advise "An Investor" to obtain a little information as to what it cost the company to sink their longitudinal shaft to the depth of something like 300 fms., and also to peruse the advice received from Mr. Gordon a short time since, in which it was distinctly stated that new shafts would be sunk, and not a timber tunnel "rapidly run through the debris." Although no doubt some computation might be made as to the amount it will cost to sink two new shafts, nothing of the kind has yet appeared in the official advice, but it is very much to be feared that they cannot be carried down to the depth of the old workings within an expenditure of much less than four times the amount stated by "An Investor," and that the work cannot be completed within seven or eight years. Estimates have been made that the outlay cannot be less than 150,000l.; but in the absence of some official statement, which, by the way, is much to be regretted, it is impossible to arrive at any satisfactory conclusion. At the forthcoming general meeting shareholders, in justice to themselves, should fully acquaint themselves upon these and the several other points which so vitally affect the future of the enterprise. X. Y. Z.

FOREIGN MINING AND METALLURGY.

A rumour which had prevailed to the effect that the Belgian syndicate of works had obtained a contract for 8000 tons of rails in Russia has proved to be correct, and the price, too, is stated to be 8s. per ton above that in connection with the last contract concluded in Russia by the house of Acroz. A contract is also understood to have been secured in Belgium for 2500 tons of rails for an Austrian house, deliveries to be made at Stettin; other contracts are in course of negotiation at the present time, and the syndicate of works in Belgium in the first three months of this year amounted to 73,831 tons, as compared with 87,278 tons in the corresponding period of 1867, and 24,256 tons in the corresponding period of 1866. In these totals the imports from the United Kingdom figured for 29,669 tons to March 31 this year, against 28,032 tons and 5878 tons respectively. The quantity of coal exported from Belgium in the first three months of this year amounted to 815,181 tons, against 804,941 tons in the corresponding period of 1867, and 940,365 tons in the corresponding period of 1866. France, as usual, takes almost the whole of these exports—790,047 tons to March 31 this year, against 781,292 tons in the first quarter of 1867, and 904,908 tons in the first quarter of 1866. The exports of rails from Belgium in the first three months of this year were 14,804 tons, as compared with 22,725 tons in the corresponding period of 1867, and 19,215 tons in the corresponding period of 1866. These totals may be analysed as follows:—

	1866.	1867.	1868.
Russia.....	Tons 3120	Tons 20,350	Tons 13,215
Holland.....	2541	594	509
Italy.....	397	1,637	552

Russia still continues to be the mainstay of the Belgian rail trade. Meetings are announced as follows:—Haine St. Pierre Forges, Ironworks, and Foundries Company, June 13, at Brussels; Patience and Beaujeu United Collieries Company, June 15, at Ans; Boussu and St. Croix St. Claire Collieries Company, June 20, at Brussels; Mulheim-sur-Ruhr Colliery Company, June 20, at Brussels; Concelles-Nord Colliery Company, June 27, at Brussels, &c.

It appears that in 1866 the Zollverein had 1543 coal mines in working, which employed 132,147 workmen, and produced 28,162,805 tons of coal, of a total estimated value of 7,303,910l. The value of all the products of the mines of the Zollverein amounted in 1866 to 9,791,907l., of which the working of coal mines furnished 74 per cent., or as nearly as possible three-fourths. In 1866, 3,309,273 tons of coal were exported from the Zollverein, and, in 1866, 1,152,757 tons of coal were imported into the Zollverein. The coal consumption of the Zollverein amounted in 1866 to 19,473,225 tons, or rather more than ½ ton per inhabitant. A committee appointed to consider the position of the Asturian Colliery and Metallurgical Company has recommended that the concern should go into liquidation. In consequence of this recommendation MM. Numa Guillon and Bouinval have been appointed liquidators. The directors of the Eastern of France Railway Company, in treating of a new convention for the working of certain lines in the Grand Duchy of Luxembourg, observe:—"The Luxembourg network comprises numerous elements of prosperity. The two branches of Esch and Ottange accommodate rich mining basins, the working of which acquires every year since the execution of railways a continually increasing importance. Thus the transports of minerals, which in 1861 were only 113,000 tons, amounted in 1867 to about 500,000 tons. The minerals extracted in the Esch and Ottange basins are also partially employed on the spot, or in the district. The quantity consumed in 1867 by blast-furnaces in the neighbourhood of Luxembourg attained a total of 140,000 tons, and everything leads to the belief that the production of rough pig in the Grand Duchy will acquire still more considerable proportions. It is estimated that the annual extraction of minerals in the Esch and Ottange basins may be carried to 1,000,000 tons, and this estimate does not appear to us to be in any way exaggerated. Besides transit commerce between Belgium, Holland, and Switzerland, which borrows the territory of the Grand Duchy, the conveyance of coal and coke intended either for the metallurgical establishments of the district, or for ironworks in the French departments of the Moselle and the Meurthe, is an important source of traffic for the lines of the Luxembourg network. For many years the metallurgical industry of the

Moselle and the Meurthe remained a tributary of the Sarrebruck coal basin, and the production of pig in these two departments was, accordingly, limited by the production of the Prussian coke furnaces; but this is no longer the case. Thanks to the Luxembourg lines, the coke of Charleroi and Liège arrives in abundance at our forges, and replaces almost completely the coals of the Sarre; so that the French works, relieved from the exigencies of the Prussian market, can now address themselves to the Belgian coal basins, and even to the basin of the Ruhr. The transports of coal and coke effected on the Luxembourg network, which in 1862 were only 81,000 tons, amounted in 1867 to about 208,000 tons. We have just said that the metallurgical establishments of the Meurthe and the Moselle had found, in a direct communication with the basins of Belgium and the Ruhr, facilities of supply which had been wanting in the past. On its side the Eastern of France Railway Company now arrives with its trucks in the Liège basin; it touches the basins of Sarrebruck, Charleroi, and the Ruhr, and, free to select between four coal basins, it is not now at the discretion of any of them for its supplies of combustible." The quantity of coal imported into France in the first three months of this year amounted to 1,508,816 tons, as compared with 1,526,391 tons in the corresponding period of 1867, and 1,682,980 tons in the corresponding period of 1866. These totals may be analysed as follows:—

	1866.	1867.	1868.
United Kingdom.....	Tons 408,412	450,404	410,428
Belgium.....	1,019,579	812,134	836,709
Zollverein.....	259,852	257,158	261,680

Coke was also imported into France in the first three months of this year to the extent of 169,886 tons, as compared with 190,362 tons in the corresponding period of 1867, and 265,407 tons in the corresponding period of 1866. Very little of this coke came from the United Kingdom, the bulk of it being obtained from Belgium and the Zollverein. Iron ore was imported into France in the first three months of this year to the extent of 83,291 tons, as compared with 102,152 tons in the corresponding period of 1867, and 83,292 tons in the corresponding period of 1866. These supplies of minerals were principally furnished from Belgium, the Zollverein, and Algeria. The imports of pig-iron into France have considerably declined this year, having been only 4892 tons to March 31, as compared with 28,048 tons in the corresponding period of 1866, and 12,639 tons in the corresponding period of 1865. The pig received from the United Kingdom figured in these totals for 4072 tons to March 31 this year, as compared with 25,022 tons to the corresponding date of 1867, and 3414 tons to the corresponding date of 1866. Meetings are announced as follows:—Bonne Espérance and Roune Veldre United Collieries Company, June 15, at Paris; Carvin (Pas-de-Calais) Colliery Company, June 15, at Paris; Châtillon and Commeny Forges Company, June 19, at Paris; and Marseilles Gas Lighting and Blast-Furnaces and Foundries (and Portes and Sénéchas) Mines Company, June 23, at Paris.

The advice received by the last mail from the Southern Seas announced only restricted deliveries of copper during the first fortnight of April, but these advice have exerted scarcely any effect on the market, and have in no respect changed the tone of the article, which remains firm, notwithstanding a very limited movement of affairs. Disposable Chilean bars have been dealt in at 78l. 14s., and for delivery at the end of July at 79l. 10s. per ton. The Paris market has been quiet, and prices have remained without notable variation. Chilean bars have been made 79l.; ditto, in ingots, 81l. 10s.; tough English, 82l.; and Corocoro mineral (pure copper), 80l. per ton. The Marseilles market has remained without any important affairs, and holders would, probably, be inclined to do business at something below the prices quoted, and which are—for Toka and Spanish, 78l.; refined Chilean and Peruvian, 80l.; rolled red copper for sheathing, 92l.; yellow, ditto, 82l. per ton. The German markets transactions have continued to be limited to the daily requirements of consumption. The last few days have been very quiet as regards tin, and a more feeble tendency is generally remarked in the tone of that metal. The reports from the Dutch markets indicate sales of Banca at 5½/8 fls. to 5½/8 fls.; there are also sellers of Billiton at 4½/8 fls. The deliveries and stock of Banca tin on the Dutch markets during the first five months of the last five years were as follows:—

	1864.	1865.	1866.	1867.	1868.
January.....	Ingots 5,145	4,230	11,860	10,850	6,650
February.....	9,190	4,987	7,969	6,193	11,000
March.....	6,035	9,640	17,236	6,519	10,100
April.....	6,377	5,660	24,192	12,568	14,464
May.....	6,445	3,890	22,739	9,884	11,739
Total.....	33,260	28,407	84,076	46,114	54,135

The stock on schedules, May 31, 1868, was 107,472 ingots, as compared with 154,472 ingots May 31, 1867; 124,529 ingots May 31, 1866; 28,500 ingots May 31, 1865; and 33,269 ingots May 31, 1864. The unsold stock of the Societe de Commerce May 31, 1868, was 62,921 ingots, as compared with 43,770 ingots May 31, 1867; 88,127 ingots May 31, 1866; 175,953 ingots May 31, 1865; and 138,154 ingots May 31, 1864. The Paris tin market has presented little change. Affairs have also been quiet and without notable modifications on the German markets. There is no striking movement to note in lead. Few transactions have been noted in zinc on the Breslau market, but nevertheless the article has well maintained its value. The same may be said of the Hamburg zinc market.

MINING IN NEVADA, U.S.

[From our Correspondent.]

Having given an account of the splendid reduction-works of the Combination Company, it will not be out of place to give an accurate description of the general features, appearance, and present condition of the famous Highbridge Mine. Since its discovery, in 1866, the works of the Combination and Belmont Companies have partially developed it to the depth of about 160 feet, and in lineal extent something over 600 feet. On the surface the ledge has been cut down from 10 to 20 feet, exposing a face over 200 feet long; besides this, other slight surface excavations have been made to the northward, but in none of them has the footwall been reached, although the vein has in many places been penetrated from 20 to 30 feet. At the back of the Highbridge there is seemingly another ledge, which is called the Fairview; its distance from the Highbridge is irregular, and varies from 1 to 6 feet. The intervening matter is slate. While the Highbridge dips to the east at an angle of 40°, the Fairview stands nearly vertical, so that at the bottom of the incline of the Belmont Company's claim on the Highbridge Mine, near to the southern boundary of the Combination Company, the two ledges are wide asunder. Two tunnels have been run into the hill, extending a distance of some 80 feet below the surface. The first is close to the southern boundary of the claim, in which the vein was cut at a distance of 244 ft. From this tunnel a level runs north and south; in the former direction it extends 170 ft., and in the latter 133 ft., and considerable bodies of ore have been extracted from both points. A vertical shaft extends from this tunnel 65 ft. to the lower level, which runs 160 ft. south. About one-third of the mill race has been stopped out of the ground opened by these levels. Just 60 ft. north there is another tunnel, which has been driven to the distance of 255 ft.; a level extends 125 ft. south, and some considerable space north. The various openings under the ground from which the ore have been taken are well secured by stout timbers. At various points there are chambers of great width, from which large masses of the richest character of ore have been taken. Besides the work enumerated below the surface, there is a spacious working shaft, which has been sunk to the depth of 86 ft.; it is divided into three compartments, each of which is a square in the clear, and substantially planked from the top to the bottom. The lower level of the mine has been reached, at which point it connects with the working shaft, which is 20 ft. deeper. There is a commodious house over this shaft, furnished with powerful hoisting apparatus, equal to sinking it to the depth of 1000 feet, but the machinery has not been used, in consequence of there not being any great amount of water to contend with as yet. The vein, to its present depth, varies in width from 6 ft. to 14 ft., and there has already been some 80,000 cubic feet of milling ore stoped out of the ground below the surface, and nearly 150,000 cubic feet of a similar quality ore remains for stoping from the levels already reached. This latter surface would produce about 10,000 tons of ore, which ought to yield not less than \$500,000 worth of silver. There is a vast amount of ore at the mine, amounting to at least 3000 or 4000 tons, interspersed through which are the choicest cabinet specimens. Pieces of the purplish black stibiofide come frequently to hand. The Highbridge has been more extensively worked than any other mine in the district, and yet it cannot be said to be fairly prospected, though sufficient is known from the developments of the past year to prove the mines of this district to be equal, or superior, to those of older mining countries.

In the El Dorado South, in this same district, there has been some remarkable developments recently made. For a length along the lode of 300 ft., south from the shaft, it has been discovered that the main portion of the ledge is composed of very high grade chloride ore, working an average of near \$500 per ton. The greatest depth yet reached upon this surface working is now about 50 ft., with no diminution in either quantity or quality. In the incline, at a depth of 125 ft. from the surface, a very large body of exceedingly rich silver ore has been disclosed, surpassing anything heretofore found in the mine. The company now have ready for milling over 100 tons of first-class ore, which will be worked shortly by one of the mills of the district. All developments upon the El Dorado tend to prove that it is one of the finest mineral-bearing lodes of Nevada. SMELTING-WORKS AT PAHRANAGAT.—Mr. Woodhull, a gentleman who has had large experience in the smelting business in Wales and other countries, is now engaged in building a furnace capable of reducing 1 ton at a time, and is confident of its entire practicability, and the result of his plan. Since his arrival there he has made a great many practical tests upon lineal scale, and has met with astonishing success. The furnace is a reverberatory; the ore is broken in small pieces, and with the flux is placed therein, and in four hours is reduced, producing a "cake" or "button" of bullion, and leaving as slag a mass of glass. The flux is known only to the operator, who says it is easily obtained all over the country, and costs but a trifle. But a small quantity of wood is used in this operation—about one and a half to the ton of ore. Mr. Woodhull, as also those who have witnessed the result of his plan, are of the opinion that ore can be reduced by this method at a cost of \$10 per ton, and that a much better result can be obtained than by any other known system of reduction. The new district of "Sheridan" has been lately discovered in this section, it is located on the Pahrana road, some 45 miles south-east of Revell's district. The principal locations are respectively named Nevada grant, 10 feet wide; Potosi, 6 feet; and the Evans ledge; the two first are running parallel, and cropping to the surface, a very large body of exceedingly rich silver ore, and inter-valleys large ore chimneys occur, of such magnitude that thousands of tons of rich ore are said to be revealed to sight. Many persons have rushed thither from different places, until the immediate vicinity has been pretty generally prospected, and a great many locations made. The ore assays from \$100 to \$300 per ton.

TRIAL OF EXPLOSIVE COMPOUNDS.—Some competitive trials of explosive compounds were made in the shooting-grounds attached to the Museum of Fire-arms, Peckham-rye, before a committee of reference, composed of Viscount Ranelagh, Mr. Frank Heathcote, and Mr. A. W. Arnold. It was considered that the diversity of opinion existing as to the relative merits of gunpowder, gun-cotton, gun-cloth, gun-felt, and gun-sawdust, as safe and useful propellant agents, rendered it desirable to ascertain the exact degree of merit attaching to each, and especially the extent to which each might safely be used in fowling-pieces. The proprietors of each kind were consequently invited to submit samples for trial. Four points were aimed at in the programme.—1st. The establishment of a standard of merit, based on the average results obtained from gunpowder of different makers; 2d. Comparisons as to pattern, penetration, recoil, and

GRESHAM HOUSE, OLD BROAD STREET, LONDON, E.C.

growing on regularly, the water still scarce. The new north lode is a very large one, made up of branches similar to the old lode. These branches are productive of good stones of yellow copper ore in the deep adit level. Such a lode, when influenced by anything affecting concentration, such as a junction with another lode, or in the immediate neighbourhood of a greenstone, will, I think, be found to be very productive. The driving east on this lode will test the east and west lode at the same time, promising good prospects. The east lode is a very good one, and the east and west lode is gossany in the deep adit, whereas on the north lode we appear to be under its position in that level, hence the greater chances of pro-

bob, and fixed rods to that level, as preparatory work for the man-engine. We are now expecting the new work from Messrs. West and Sons, and, if supplied in time, we hope to get it completed by the next meeting.

Projected New Companies.

Company.	Capital.	Shares.	Each.
Hester's Way Freehold Land Company	£ 2,000	40	£50
Gas Economising Company	21,000	21,000	1
St. Vincent Rocks Hotel	7,500	300	25
Swancombe Chalk Quarries	30,000	1,500	20
Gynsham Gas	2,000	400	5
Canadian and North-West Land and Mining	10,000	1,000	10
Tyne Salmon Fishery	100	50	2

CANADIAN AND NORTH-WEST LAND AND MINING COMPANY. 10,000. In 1000 shares of 10l. each.—The objects for which this company is established are acquiring the fee simple and inheritance in any lands, mines, minerals, or interest therein, situate in British North America, and deriving profit from working, letting, or selling their fee simple and inheritance, estates, and interests. The nominal capital of the company is 10,000l., divided into 1000 shares of 10l. each, but any number of such shares, and all or any number of the shares, which may be issued to increase the capital may, by special resolution, be declared to have a special or fixed, or preference or exclusive, dividend or rate of interest or profit, guaranteed or secured to them out of the assets, profits, or revenue of the company, in priority to the remaining, or some portion of the remaining shares. The Memorandum is signed by—J. C. ROWLEY, of Clarence-buildings, Manchester, solicitor; 40; W. LOCKWOOD, of St. Mary's-gate, Nottingham; 25; J. MERCER, of Oakenshaw, Accrington; 50; E. B. ROWLEY, of Clarence-buildings, Manchester, solicitor; 2; J. RICHARDSON, of Clarence-buildings, Manchester, accountant; 2; J. B. DODSON, of Great Warford, Knutsford, farmer; 1; W. B. BUSTARD, of 28, Mulberry-street, Hulme, Manchester, 1. The directors may from time to time, with the sanction of a general meeting, create any additional capital. The sum of 1l. 10s. per share shall be paid on application for shares, and a further sum of 1l. per share shall be paid on allotment. The first directors shall be E. BOOTH, of Manchester, gun manufacturer; H. FLERSHEIM, of Nottingham, merchant; J. MERCER, of Oakenshaw, cotton manufacturer; W. LOCKWOOD, of Nottingham, manufacturer; J. C. ROWLEY, of Manchester, solicitor; A. WATKIN, of Manchester, commission agent. The directors for the time being shall have power to add to their number at any time previous to the first ordinary meeting in the year 1868, so that the total number of directors do not exceed 7; and it shall afterwards be lawful for the number of directors to be diminished or increased by a resolution of the members at any extraordinary meeting. A director must not hold less than 10 shares. The directors shall be entitled to set apart and receive for their remuneration in every year such sum as shall be from time to time determined by any general meeting, and such sum shall be divided among the directors in such manner as they shall from time to time determine. The registered office of the company is situated at 4, Clarence-buildings, Booth-street, Manchester.

SWANCOMBE CHALK QUARRIES, 30,000l., in 1500 shares of 20l. each.—The objects for which this company is established are to purchase about 80 acres of chalk land in Swancombe, Kent, and about 7½ acres of marsh land in Northfleet; to manufacture cement, whitening, lime, plaster, bricks, tiles, drain pipes, pottery, and artificial stone; and to do all such other things as are conducive to the attainment of the above objects. The Memorandum is signed by—EDWARD HARVEY, 22, Park-street, Stoke Newington, 115; ANN MARIA and CATHERINE ELIZABETH HARVEY, 45, Lyndhurst-road, Peckham, 370; GEORGE MILLS HARVEY, Indigo broker, 9, Mincing-lane, London, 140; JOHN IVIMY, merchant, 51, Eastcheap, London, 10; JOSEPH WILLIAM WILSON, civil engineer, 4, The Elms, Wandsworth, 1. Registered without Articles of Association.

MINING IN THE CHIVERTON DISTRICT—NEW CHIVERTON CONSOLS.—The details of the first meeting of this company are reported in another column, from which it will be seen that the operations at the mine are progressing most satisfactorily, the outlay in connection with the preliminary works having been met by the returns. The property is situated in the centre of the best lead district in Cornwall, and the manager describes the lodes as being accompanied by large elvan courses, and intersected by the principal cross-courses of the locality; and he states that there is every reason to expect a very good and excellent mine will be opened up. This is confirmed by Capt. Pope (of Wheal Bassett) who states that, judging from what can be seen of the ground laid open in the different lodes, and the fine mineral-bearing strata in which they are embedded, he should say it is one of the best pieces of mining property now unexplored in Cornwall. The shareholders unanimously determined to erect a suitable steam-engine forthwith, and to develop the mine upon a scale commensurate with its proved merits.

GOLD MINING IN WALES—VIGRA AND CLOGAU.—By the report, which appears elsewhere, it will be found that gold has been cut in the drive from No. 5 shaft, of No. 2 St. David's Mine, and that it is still visible in the rock. It should be mentioned that this discovery has been made at the point indicated by Mr. Arthur Dean, the company's consulting engineer. A bar of gold is promised shortly.

ROYAL COPPER MINES OF COBRE.—In another part of the Journal we have alluded to the plan proposed by the late general meeting of shareholders to raise the funds required for the exploration of the unworked ground. Considering the large returns hitherto made by the company, the great extent of unworked ground, and the small amount now required for the works, there ought not to be any difficulty in raising the necessary amount; and should the company be successful, it may be fairly concluded there will be no occasion for further calls, at all events for the present.

GOLD MINING IN ITALY.—The Pestarena United Mining Company have received a remittance of 682 ozs. of gold. Recent amalgamating operations have been attended with an undue loss of mercury, and consequent loss of gold. This has unfavourably affected the return, but the managing director has since telegraphed to the effect that he believes he has discovered the cause.

MINING NOTABILIA.

[EXTRACTS FROM OUR CORRESPONDENCE.]

ROSEWARNE CONSOLS.—It is very gratifying to see this mine improving, so that the shareholders may be repaid their large outlay. During the past month some valuable ore ground has been laid open, and in sinking the lode improves in value. Regular sales of ore are now being made, last Thursday's being 115l., which is an increase of 30l. on the previous sale, and the agents will have a larger parcel next time. All the machinery is in first-rate working order.

GREAT SOUTH CHIVERTON continues to look well, and, from present appearance of the lode in the 40 and 50 fm. levels west, lead will no doubt be soon met with in paying quantities.

At LOVELL CONSOLS operations are being carried on with all speed. As soon as the shaft is raised and divided the level will be extended west, to get under the valuable run of ore passed through in the level above. It is expected that about 7½ l. will have to be driven to meet the lode, and, from appearances, a valuable discovery may with confidence be looked for.

PRINCESS OF WALES.—Last week attention was called to the fact that a splendid lode had been cut in the north adit cross-cut, composed of gossan, capel, &c., spotted with copper ore. This is the finest discovery that has been made in the district for many years, and if the mine is vigorously worked we have no hesitation in saying that the shareholders will be richly rewarded for their outlay.

MINERA UNION.—This mine adjoins the celebrated Minera, which has returned 233l. 13s. per share in dividends, on an outlay of 25l. per share. The prospects of the Minera Union Company at this present moment are so encouraging, that we believe the shares will be in a short time at a considerable premium; and it looks well for the undertaking that well-known investors in mines are taking great interest in the development of this property.

GOLD MINING IN CALIFORNIA.—The number of quartz mills is 413, with an average of 10½ stamps to each; calculating each to crush a ton in the 24 hours of rock, dirt, and clay, with a yield of 1½ l. per ton, the total yield of gold extracted in this way would amount to 2,100,000l., which is supposed by practical people to be a fair approximation to the actual result. The quartz mines are many of them worked now to a depth of 800 to 1000 ft., and in many instances the rock has been gradually getting richer as the downward work proceeds. The most prosperous mine in the State has yielded to its owners for the past twelve months from 5000l. to 8000l. monthly.

COAL MINING IN CHINA.—The coal mines at Ke-Lung are worked in a very primitive manner. No shafts are sunk, nor is any machinery employed, but the coolies pick the coal and convey it out of the working in small baskets, and in almost infinitesimal quantities at a time. It is placed in boats and conveyed to the harbour, where it is deposited in the coal stores situated upon the southern side—mere accumulations of coal purchased by English and other merchants, and from which ships are mostly supplied. These stores have no covering, nor any protection whatever from the weather, and the coal, therefore, is apt to deteriorate if kept there long. The mines themselves are exclusively worked under the Chinese authorities and by Chinese coolies, foreign interference or possession being jealously guarded against; the consequence is that their resources are undeveloped and unknown. It is impossible to judge of their extent beneath the soil, because no shafts have been sunk, and no tentative efforts in the shape of borings appear to have been made. The wonder is rather that so much is produced by the industry of the coolies; its comparative cheapness is owing to the low value of cooile labour, added to the absence of expensive outlay in the working of the mines.—CUTHBERT COLLINGWOOD, M.A.

In an old gallery which had fallen in some years back at the coal mine of Sainte-Marie, at Montcau-le-Mines (Saône-et-Loire), have been found the bodies of six men buried there in the explosion of fire-damp on Dec. 22, 1855. The corpses were found to be completely dried up, but in a remarkable state of preservation, the features being so little changed that each of the deceased was easily recognised by his surviving relatives. The remains have been interred in the cemetery, with every demonstration of respect.

The Mining Market; Prices of Metals, Ores, &c.

METAL MARKET—LONDON, JUNE 12, 1868.

COPPER.				IRON.			
	£	s.	d.		£	s.	d.
Best selected, p. ton	81	0	0	Bars Welsh, in London	6	5	0
Tough cake and tile	80	0	0	Ditto, to arrive	6	2	6
Sheathing & sheets	84	0	0	Nail rods	6	15	0
Bolts	83	0	0	Staffs, in London	7	6	8
Bottoms	88	0	0	Ditto ditto	7	5	0
Old (Exchange)	70	0	0	Hoops ditto	8	2	6
Barra Barra	83	0	0	Sheets, single	9	0	11
Wire.....per lb.	0	1	0 1/2	Pig No. 1, in Wales	3	15	0
Tubes	0	0	1 1/2	Refined metal, ditto	4	0	5
				Bars, common ditto	5	10	0
BRASS.				IRON.			
	£	s.	d.		£	s.	d.
Sheets.....per lb.	9d.-10d.			Do. m.rch. Tynor & Tees	6	10	0
Wire	8 1/2d.-9 1/2d.			Do., railway, in Wales	5	10	0
Tubes	10 1/2d.-11d.			Do., Swed. in London	10	0	10
Yellow Metal Sheath. p. lb.	7 1/2d.-			To arrive	10	0	10
Sheets	6 3/4d.-7d.			Pig No. 1, in Clyde	2	12	3
				Do. f.o.b. Tynor & Tees	2	9	6
SPELTER.				IRON.			
	£	s.	d.		£	s.	d.
Foreign on the spot	20	10	0	Do. Nos. 3, 4, f.o.b. do.	2	6	2
" to arrive	20	10	0	Railway chairs	5	10	0
				" spikes	11	0	12
ZINC.				IRON.			
	£	s.	d.		£	s.	d.
In sheets	22	10	0	Indian Charcoal Pigs,			
				in London, p. ton.	7	0	7
TIN.				IRON.			
	£	s.	d.		£	s.	d.
English blocks	96	0	0	STEEL.			
Do., bars (in barrels)	97	0	0	Swed., in kegs (rolled)	14	5	0
Do., refined	98	0	0	" (hammered)	14	15	0
Banca	94	0	0	Ditto, in faggots	16	0	0
Straits	91	10	0	English, spring	17	0	23
				QUICKSILVER (p. bottle)	6	17	0
TIN-PLATES.*				IRON.			
	£	s.	d.		£	s.	d.
IC Charcoal, 1st qua.	1	6	0	LEAD.			
IX Ditto, 1st quality	1	12	0	English Pig, com.	19	7	6
IC Ditto, 2d quality	1	4	0	Ditto, LB.	19	12	0
IX Ditto, 2d quality	1	10	0	Ditto, WB.	21	5	0
IC Coke	1	2	0	Ditto, sheet	20	5	0
IX Ditto	1	8	0	Ditto, red lead	20	10	0
Canada plates, p. ton	13	10	0	Ditto, white	27	0	30
Ditto, at works	12	10	0	Ditto, patent shot	22	10	22
				Spanish	18	10	15

* At the works, 1s. to 1s. 6d. per box less.

REMARKS.—The Metal Market during the past week has continued to show a moderate degree of activity, though in some metals there still remains a want of animation, which it was hoped would have passed away before this; however, as business generally is much better than it was, and orders are coming in with greater freedom, it may be expected that a change for the better will, ere long, take place in those metals which have not yet participated in the improvement which has taken place with regard to others, and that we may be enabled soon to record a general revival in all departments of the metal trade, and there seems no reason to doubt that this will speedily be the case, especially as so pleasing a change has already occurred. The general aspect of affairs on the Continent is such as to afford great encouragement to commercial operations; and now that the question of the impeachment of the President, which has so long agitated the Americans, is set at rest, it may be anticipated that more attention will be paid to commerce, and that it will be found our business relations will considerably increase. Orders from India are becoming more numerous, and a much more satisfactory business is now being done with the East than has been the case for some time past, and it is to be hoped that this improvement will still go forward and increase, until we once more reach that active and energetic state of things which formerly characterised our transactions with that portion of the empire. Monetary affairs still continue such that every advantage is held out to operators, and it would be gratifying to find they were being used for employment in metals.

COPPER.—The market generally has been inactive during the week, and no transactions of moment have occurred. Later in the week considerable quantities of Wallaroo were placed on the market for immediate sale, and the price was thus forced down to 80l. cash, but a reaction afterwards took place, and 80l. 10s. to 81l. has since been paid. The transactions amount to about 600 tons. Chili bar has been sold at 76l.

IRON.—In Staffordshire some degree of increased activity is reported in the demand for manufactured iron. The demand from the United States, India, and the Continent is rather better, and there is altogether an improved feeling in the trade. Owing to the strike, stocks of pigs have somewhat accumulated, but as that is virtually over, should the improved demand continue these will shortly be reduced. The recent orders for rails, and the requirements for plates for shipbuilding is diminishing the competition in the Cleveland district, so that it is hoped some orders will come to Staffordshire. In Welsh the signs of improvement in the trade are making slower progress than was anticipated a few weeks ago, and additional orders are not yet offered with freedom. This is more particularly the case on home account; and, although some three or four of the leading railway companies are in the market for considerable quantities, the great majority of buyers are only making comparatively small purchases, just sufficient to meet immediate requirements. To the foreign markets the exports are considerable, the United States still heading the list, with the prospect of a further increase in the demand. In Swedish iron the demand still continues fair. In Scotch pig-iron there has been very little fluctuation in the market during the week, the last price received from Glasgow being 51s. 6d. cash.

LEAD.—The market still exhibits a tolerable amount of enquiry, and business to a moderate extent is now doing.

TIN.—The Dutch Trading Company have given notice that for the 40,489 slabs of Banca left unsold at the half-yearly sale in March, or for quantities of not less than 2500 slabs, they will accept tenders on the 18th inst. at not less than 55 fls., being the price at which the above was bought in. It is not yet apparent what effect this may have upon the market for Straits, but as yet it does not appear to have had a decided influence. Business has still been done in Straits at 91l. 10s. cash.

SPELTER is not so active as last week, and, consequently, the price is less firm; business has been done on the spot at 20l. 10s., which may now be considered the quotation.

TIN-PLATES.—Prices are still fairly maintained.

STEEL.—A rather better enquiry exists.

QUICKSILVER.—The demand has somewhat improved.

There have been more enquiries on the MINING SHARE MARKET for good dividend and progressive mines, but business, on the whole, has not shown much greater activity, nor have prices generally advanced; in fact, more than half our quotations are little better than nominal. The standard for copper ore at the Ticketing on Thursday remained stationary. Last week it rose 1l., after a continuous fall of several pence. The mines chiefly dealt in since our last have been West Chiverton, Chiverton Moor, Prince of Wales, West Prince of Wales, Chontales, Wheal Emily Henrietta, East Caradon, Great Retallack, Marke Valley, North Treskerby, West Seton, Wheal Seton, Great Laxey, Great Wheal Vor, North Crofty, North Roskear, Frontino and Bolivia, East Wheal Grenville, and a few others. Prince of Wales, 42s. 6d. to 45s.; the 65 west has stones of rich copper ore occasionally, and an improvement is looked for in the 65, where they are driving by the side of the lode. Cargoll, 20 to 22; Chiverton Moor, 6l. to 6½; Clifford Amalgamated, 4½ to 5½; Devon Great Consols, 44 to 45; East Basset, 8½ to 9½; East Lovell, 7½ to 8; East Seton, 17s. 6d. to 20s. North Treskerby, 17s. to 18s.; at the meeting, held on Tuesday, the accounts showed a loss on two months' working of 134l. 1s. 8d., and a balance of 187l. 2s. 5d. in favour of the adventurers. The amount of copper credited in these accounts for two months is 1114l. 17s. 8d. The sale made on May 28, to come to credit of next account, is 585l. 16s. 6d. The report states that an extension of ground east has been obtained, and here it is hoped a continuation of the rich shallow branches may be found. The other parts of the mine have not been opening out as desired.

Frontino and Bolivia, 16s. to 18s.; Great Laxey, 16½ to 17; Great Wheal Vor, 15 to 16; Marke Valley, 6½ to 6½; North Croft, 1½ to 2; North Downs, 25s. to 27s. 6d.; North Roskear, 14 to 15; Wheal Emily Henrietta, 36 to 38; New Wheal Lovell, 20s. to 22s.; Caldbek Fells, 11s. to 13s. East Caradon, 3½ to 3½; the 90 east, on the counter lode, is worth 12l. per fathom; the 70 west, on south lode, 6l. per fathom; the 70 east, on Child's lode, 12l. per fathom. South Frances, 17 to 18; South Herodfoot, 15s. to 20s., and in request; Tincroft,

13½ to 14½; West Caradon, 4 to 4½; West Chiverton, 6l. to 6½; West Frances, 30 to 32. West Seton, 19½ to 19½; at the meeting a dividend of 5l. per share was declared. Wheal Seton, 7½ to 80; at the meeting no dividend was declared. South Crofty, 17 to 19.

West Prince of Wales, 9s. to 11s.; the south shaft is down 10 fms. below adit, and sinking at 8l. per fathom. The lode in this 10 fms. has shown a gradual improvement, and the agents hope for something good before long. West Chiverton, 1½ to 2; Wheal Grenville, 29s. to 31s. Wheal Mary Ann, 21½ to 22½; at the meeting a dividend of 17s. 6d. per share was declared. Wheal Trelawny, 9 to 10. Great Wheal Grenville, 32s. to 34s.; the lode in the engine-shaft, sinking below the 110, is not so rich for copper, but better for tin. The counter lode is said to have improved. Great Retallack shares have been more dealt in, at 2½ to 2½. The large engine is expected to go to work about the end of the month.

Chontales Gold, 1½ to 2; the proposal of the directors to be submitted to the shareholders at the meeting, on Tuesday next, has been published and circulated among the shareholders. They propose to take powers for borrowing any sum not exceeding 30,000l., and to raise such sum as may be required by debentures bearing 12 per cent. interest. No debenture to be for less than 5l., to be offered *pro rata* to the present shareholders, to be paid for by instalments not exceeding 5s. each, and at intervals of not less than three months. If taken up, therefore, by the present shareholders, it will be like their advancing another call equal to 13s. 4d. per share, to be repaid them out of the first profits of the company; and, until so repaid, they are to receive interest at the rate of 12 per cent. At Camborn Vein there is a great improvement in the shaft; the lode is 3 ft. wide, and very rich for tin.

Notwithstanding the general dullness there has been a fair amount of business transacted in mines on the Stock Exchange during the week. Don Pedro, Rossa Grande, and Port Phillip shares have been in chief request, and close firmer. Chontales, on the other hand, have been depressed, on the report issued by the directors, and the fear that the prospects to be made at the forthcoming meeting will not be favourably received. Cape Coppers have been in demand for the Irish market. The following are the closing prices:—St. John del Rey, 18½ to 19; Don Pedro, 2½ to 2½ prem.; Anglo-Brazilian, 3-16ths to 5-16ths prem.; Pestarena, ½ to ½ dis.; Chontales, 1½ to 1½; Anglo-Italian, par to ¼ prem.; United Mexican, 1½ to 1½. Frontino and Bolivia have been in demand, and close firm, at ¾ to ¾, call paid; Port Phillip, 19-16ths to 11-16ths; Sao Vicente, ¼ to ¼ prem.; Cape Copper, 5½ to 6 prem.; Yudanamatana, 1½ to 1½; Kapunda, 3-16ths to 5-16ths; Nerbudda Coal, 1½ to ½ dis.; and Vancouver Coal, 4½ to 5. There has been a good business transacted in the following British Mines, at quotations below. Chiverton shares are 2 to 2½, being an improvement on last week's price. Chiverton Moor, 6½ to 6½; West Chiverton, 6l. to 6l. ex div.; the meeting just held of this mine is considered very satisfactory, and in opening out the ground we are happy to inform the proprietors that it has quite as good prospects as stated in the former reports, and every prospect of a long continuation. East Caradon, 3½ to 3½; West Caradon, 4½ to 5; Prince of Wales, 42s. to 43s.; Great Laxey, 16½ to 17. In Great Wheal Vor shares there has been very little doing; they close nominally 15½ to 16½. Glan Alun, 6s. 6d. to 7s. 6d.; this mine is progressing in a very satisfactory manner, and it is hoped before long will stand on the List as a dividend-paying mine.

IRISH MINE SHARE MARKET.—Reports of dullness in business on the London Stock Exchange had a depressing effect on our side, which is particularly felt in negotiations for foreign securities. Other securities sympathised with the unfavourable tone of that branch of our market, producing an occasional blank list of some of our home shares, leaving, however, a fair field for operations in railway and mining securities. Should continental news take a more reassuring turn, we may expect a considerable increase in business and prices, the daily improving prospects of a gloriously bountiful harvest strengthening our general confidence in much "better times coming." Mining shares have been objects of daily transactions, and the respective market values fairly supported. Wicklow Copper shares, 2l. 10s. paid, have just been done at 13l. 5s. to 13l. 7s. 6d., and are further enquired for. Mining Company of Ireland shares (7l. paid) readily command 19l. 2s. 6d., and more would be taken at a reduction of the fraction. Cape Copper shares (7l. paid) close at 13l. 5s., with an upward tendency. Killaloe Slate Quarry Shares (1l. paid) have been taken at 15s. Connorree shares are freely dealt in at 7s. 6d. One of the most important meetings of the shareholders of this, the Connorree Mining Company (Limited), was held on Saturday, the 31st ultimo, Mr. Greer presiding, when Mr. Flavelle reported, on behalf of the finance committee, that the balance still required to make up the 5000l., considered more than sufficient to relieve the company from embarrassments, and to enable them to carry on the mines efficiently, had been reduced to the small sum of 315l. Mr. Macredy reported that he had accompanied Mr. Greer to the mines, and that everything he saw there gave him the most perfect satisfaction. At the present moment they could scarcely obtain vessels enough to ship the sulphur ore, the demand having so much increased. He also congratulated the shareholders on the very handsome behaviour of the company's creditors, who, instead of having their claims spread over the space of two years, have agreed to a reduction of 20 per cent. The meeting then passed a resolution instructing the company's solicitor, Mr. Smyth, to take the necessary steps to have the petition presented by Mr. Richard Wood Kelly to wind-up the company withdrawn, on payment of the petitioner's taxed costs in the matter. The small balance of 315l. above alluded to was, we believe, fully subscribed for before the shareholders present at the meeting separated, thus realising our expectation that this interesting and valuable mining property would be rescued from the perils of a forced winding-up in the Court of Chancery.

The ST. VINCENT SILVER MINE, to which reference was made last week, has issued its prospectus, which will be found in another column of this day's Journal. It is stated that the stratum is primary killas, overlying the granite—a stratification known to be highly metalliferous throughout the county. The late Captain Malachi raised enormous quantities of silver, although his knowledge of silver extraction was very imperfect; thus, instead of using the amalgamating process, or smelting the ore in mass, he stamped and dressed it, whereby he lost a large percentage of the produce. A few years since a company was formed for re-working the property, but the machinery proved insufficient, and the company was wound-up. The sinking of the new engine-shaft cost about 10,000l., and only from working old backs and arches of ground left by Malachi they raised 8000l. worth of ore. There are other points of interest in the mine, considered to be of great promise.

The KILMOREY LEAD MINING COMPANY, with a capital of 10,000l., in shares of 5l. each, has been formed for working the Kilmorey and South Kilmorey Lead Mines, which have previously been worked on the Cost-book System. There are situated at Brynford, in Holywell, Flintshire. Leases have been secured upon both sets for 21 years, on fair terms. The property is to be acquired as a going concern from the present shareholders for 4475l., the whole of which they agree to accept in fully paid shares in the new company. Captain Abraham Francis reports that the geological position of the property is excellent, being lineable with the Great Holway and Milwr Mines, and immediately adjoining the coal measures—the very best position for lead deposits, as is proved by the two mines having returned, with ore at a low price, profits amounting to 400,000l. He estimates the cost of doing the necessary work to prove the mine at 3000l., so that, if a working capital of 5000l. be provided, 2000l. would remain to enable them, even without a return, to carry on the mine for a period of two years after the necessary work is completed, which he considers more than ample for the thorough development of the property. Captain F. Evans recommends for the present the prosecution of the lodes at Kilmorey and South Kilmorey shaft, where, if operations be properly conducted, they are soon likely to meet with success. As there is no water to contend with, it considerably enhances the chances of success and profits.

At the Swansea Ticketing, on Tuesday, 1250 tons of ore were sold, realising 10,433l. 8s. 6d. The particulars of the sale were—Average standard for 9 per cent. produce, 96l. 1s. 0d.; average produce, 11½; average price per ton, 8l. 7s. 0d.; quantity of fine copper, 143 tons

15 cwt. The following are the particulars of the sales during the past month:—

Date.	Tons.	Standard.	Produce.	Price per ton.	Per unit.	Ore copper.
May 5.	2526	399	3	6	15	110 9
26.	3229	97	7	0	17	12 10
June 9.	1250	98	1	0	11	14 4

Compared with the last sale, the decline has been in the standard 17. 6s., and in the price per ton of ore about 3s. Compared with the corresponding sale of last month, the decline has been in the standard 37. 2s. 6d., and in the price per ton of ore about 7s.

At Redruth Ticketing, on Thursday, 2231 tons of ore were sold, realising 84327. 18s. 0d. The particulars of the sale were:—Average standard, 1137. 12s.; average produce, 54; average price per ton, 37. 15s. 6d.; quantity of fine copper, 128 tons 5 cwt. The following are the particulars of the sales during the past month:—

Date.	Tons.	Standard.	Produce.	Per ton.	Per unit.	Ore copper.
May 14.	1719	1112	5	0	6	138 10
21.	3922	113	0	0	6	13 5
28.	3280	119	0	0	6	13 5
June 4.	3164	112	19	0	6	13 5
11.	2231	113	12	0	6	13 5

Compared with last week's sale, the standard is stationary. Compared with the corresponding sale of last month, the decline has been in the standard 27., and in the price per ton of ore about 2s. 6d.

At Dolcoath Mine meeting, on Monday, the accounts for March and April showed:—Balance last audit, 2851. 5s. 3d.; ore sold (deducting dues and rates, 5042. 15s. 7d.), 8369. 2s.; carriage of tin, 111. 19s. 3d.;—8666. 6s. 6d.;—Labour cost, merchants' bills, and Vice-Warden's assessments, 6914. 1s. 6d.; leaving credit balance, 17521. 6s. The profit on the two months' working was 14661. 19s. 9d. A dividend of 14321. (41. per share) was declared, and 3207. 6s. carried to credit of next account. Capt. J. Thomas, Provis, Tonkin, and Bawden reported that, considering the ground passed through in the 26s, they may hope for improvement in the 27s and 28s, and of old sump, which produces a little tin. They also expect an improvement in the 224, west of Harriet's, shortly.

At Wheal Mary Ann meeting, on Tuesday (Mr. T. Kittow in the chair), the accounts for the three months ending March showed a credit balance of 26091. 6s. 11d. The profit on the three months' working was 8062. 12s. 11d. A dividend of 8967. (17s. 6d. per share) was declared, and 16131. 6s. 11d. carried to credit of next account. [The report appears among the Mining Correspondence.]

At East Gunnislake Mine meeting, on June 5, a call of 1s. 6d. per share was made.

At Wheal Seton meeting, on Monday, a profit was shown on the two months' working of 1391. A credit balance of 7331. was carried forward.

At North Trekerby Mine meeting, on Tuesday, the accounts showed a credit balance of 1877. 2s. 5d. The amount of copper ore sold May 28, to come to the credit of the next account, is 587. 16s. 6d., and some tin. That which is voted to the lords for the extension of ground. The agents' report stated that for several years past they had been in treaty for a piece of ground in the eastern part of the sett, which would give them in the upper levels from 190 to 200 fms. more ground on the course of the lode. Within the last few days they have succeeded in obtaining this piece of ground, which has enabled them to resume the driving of the 36 and the deep adit levels. These levels are in whole ground to the surface, and looking at the fine deposit of gossan which can be seen in a grass shaft, about 50 fathoms in advance of the 36, they fully believe that in the additional piece of ground results equal to those in the old mine may be confidently looked for (the gossan and strata being equal in every respect). It must be borne in mind that the bunches of ore working on for the last five or six years are a continuation of the gossan bunch which made up nearly to the surface. The bunch of gossan referred to is east of the cross-course, and will be found separate and distinct. They would now be able to resume the driving of the upper levels, and these are parallel to Wheal Rose lode, which has made large courses of copper ore. The deep adit and the cross-cut are great points, and will throw light on this piece of ground. For some time past the ends have not been opening up as they could desire, yet looking at the chances of success in the driving of the 140 and 130 fathom levels, the latter just entering the course of ore driven through in the 120, together with that of the 120, west of the engine-shaft, being all in whole ground for from 30 to 50 fathoms, as well as the 100 fm. level cross-cut going out to cut two lodes in or about the elvan course, they believe the day is not far distant when the shareholders will be remunerated for their perseverance.

At Tresavean Mine meeting, on Monday, a call of 10s. per share was made. A suggestion was made that the 26 shares for sale in the Stannary Court, for which there was no offer on the 3d inst., should be bought in by the pursuer, and thrown over the book, reducing the number of shares to 449.

At the New Bampfylde Copper Mining Company meeting, to be held on Wednesday next, the accounts for the six months ending May 31 will show a debit balance of 5221. 11s. 1d., and a loss on the six months' working of 4871. 18s. 11d. The directors' report states that this loss is about equal to that spent upon additional explorations; No. 4 shaft, and other dead work since Nov. 30. The deputation of directors which visited the mine report that with a view to its further and to securing profitable ground of some permanency, they consider that No. 4 shaft should be carried down 20 fathoms deeper, or to the expected junction of the main and south lodes, when the output of the mine would probably be increased to an important extent. They are of opinion that a very large reduction might be effected in the cost of dressing the ore from the main lode by the adoption of a Blake's crusher, stamps, shaking tables, and a series of German sifting machines, one of which has just been completed by Capt. Pope, with improvements upon the working drawings and designs recently obtained from Prussia; this machine being self-feeding and acting, is so far performing its work admirably, and already effecting a considerable saving over the old mode of jigging. The additional plant and machinery referred to (which would be essentially necessary for effecting the utmost economy of working, and a proportionate increase in receipts or income) would probably involve an outlay of about 10001., exclusive of which the cost of fixing the large western wheel in the lobby would be about 4001., and it is a question calling for every serious consideration whether it would be perfectly safe to attempt to carry No. 4 shaft any deeper without the additional power suggested. The sinking of this shaft (say) 20 fms. would cost about 6001., thus making a total sum of 19001. required for a vigorous exploration of the mine, and the completion of the efficient machinery for dressing the ore at a minimum cost. Great as the advantages might be, they feel that a large outlay would not be sanctioned by the shareholders, nor are they inclined to recommend it. It will, therefore, be for the general meeting to determine whether to risk the sinking of No. 4 shaft with the present power, confining the other operations to working out the ore parts as now opened to a limited extent, with or without a small call; otherwise to decide as to the most desirable mode of selling the property and winding-up the company to the best advantage.

The Bank of England return for the week ending on Wednesday evening showed in the ISSUE DEPARTMENT an increase in the "notes issued" of 209,3571., which is represented by a corresponding increase in the coin and bullion on the other side of the account. In the BANKING DEPARTMENT there is shown an increase in the "public deposits" of 925,9511.; in the "seven day and other bills" of 2711.; and in the "rest" of 68171.; together 936,6381.; and a decrease in the "other deposits" of 452,2321.;—433,8061.; and adding thereto 411,9161., the decrease in the "other securities" on the asset side of the account, there appears an increase in the total reserve of 925,7221.

A deputation of directors, &c., from the South-Eastern Railway of Portugal, consisting of Mr. J. T. Mackenzie, Mr. Philip Rose, &c., have left London for Lisbon, with a view to ascertain the real intentions of the Portuguese Government relative to the arrangement lately concluded by it with Mr. Samuel Laing, M.P., on behalf of the general body of bondholders of the line. Recent telegrams from Lisbon have reported on alleged intention on the part of the Government not to make it a ministerial question. It seems incredible that such can really be the case, inasmuch as it would be a breach of good faith, and would involve the exclusion of Portuguese securities from the London market, and prevent the raising of any further loans for Portugal upon this market, a sacrifice which the Government surely cannot desire.

On the Stock Exchange the following prices were officially recorded during the week in British Mining Shares:—East Basset, 10½; Great Laxey, 17½; Great Wheal Vor, 16½; Prince of Wales, 24, ex div.; East Caradon, 3½; East Lovell, 8, ex div.;—In Colonial Mining Shares the prices were:—Vancouver Coal, 4½, ex div. 5; Cape Copper, 13, 12½; Don Pedro North del Rey, 3 prem., 2½; St. John del Rey, 19½, 18½, 19½, 18½, 19½; Anglo-Brazilian, 3; Chontales, 113-16ths; Frontino and Bolivia, 13-16ths; Port Phillip, 11-16ths; Rossa Grande, 4 prem.; Pestarena, 2½; Yudanmutana, 1½, 15-16ths.

COAL MARKET.—Only 106 fresh ships came forward this week. This moderate supply gave much firmness to the market, and all descriptions of coal are quoted 3d. to 6d. per ton dearer. Hetton Wallsend, 18s. 6d.; Haswell Wallsend, 18s.; Braddyl's Wallsend, 17s.; Eden Main, 16s.; Hetton Lyon's Wallsend, 15s. 6d.; Tunstall Wallsend, 15s. 6d.; Hawthorn Wallsend, 14s. 9d.; Hasting's Hartley, 16s. Unsold, 4 cargoes: 25 ships at sea.

THE COPPER TRADE.—Messrs. Vivian, Younger, and Bond (June 16) write:—Business in Chili produce has been confined to 250 tons regular at 15s. 6d. per unit, and about 250 tons of slab at prices varying from 7s. to 761. 10s., according to prompt and brands. At the first-named price only about 10 tons were sold, and the figure now asked is 761. per ton. Reports having got abroad that the quantity of fine copper chartered during the second half of April was 1900 tons (instead of 1000 tons), as was rather confidently spoken of, coupled with the late period of dullness, induced some holders of various kinds of copper to come in as sellers, and several hundred tons of fine foreign changed hands at low rates. As we write, however, the market has somewhat recovered itself. For English raw the demand has been almost nil.

MAGNESIUM FOR STREET LAMPS.—Reference was some time since made to the proposition of Messrs. Tessier du Motay and Marchal to introduce a magnesium light for the illumination of streets, and it appears that although some further modification may be necessary before it can be practically adopted, it is not altogether incapable of application. It will be remembered that the employed a cylinder of magnesium, which was played upon by jets of oxygen and of hydrogen, or ordinary street gas, and the objection raised was that there would be great difficulty in obtaining the oxygen. The process now used by Messrs. Du Motay and Marchal consists in heating oxide of manganese and soda in a retort to about 800° Fahr., decomposition being effected by a jet of steam which liberates the oxygen and permits of being collected in a suitable vessel. It is claimed that the heat evolved from the new lamp is considerably less than from gas. The cost of the magnesium tubes is said to be very trifling.

Contract for Coals for Haulbowline.

CONTRACT DEPARTMENT, ADMIRALTY, SOMERSET HOUSE.

THE COMMISSIONERS for Executing the Office of Lord High Admiral of the United Kingdom of Great Britain and Ireland, do hereby give notice that on TUESDAY, the 23d instant, at Two o'clock, they will be ready to TREAT with such persons as may be WILLING to CONTRACT for SUPPLYING and DELIVERING into Store at Her Majesty's Naval Yard, at Haulbowline,

ONE THOUSAND TONS OF SMOKELESS SOUTH WALES COALS, Fit for the service of Her Majesty's steam-ships and vessels. The COALS are to be DELIVERED by the 23d July, 1868. A form of the tender and conditions of contract may be seen in the lobby of the Storekeeper-General's Department, Admiralty, Somerset House. No tender will be received after Two o'clock on the day of treaty, nor will any be noticed unless the party attends, or an agent for him duly authorised in writing. Every tender must be addressed to the Secretary of the Admiralty, and bear in the left-hand corner the words "Tender for Coals for Haulbowline," and must also be delivered at the Department of the Storekeeper-General, Admiralty, Somerset House, accompanied by a letter signed by a responsible person, engaging to become bound with the person tendering in the sum of £25 per cent. on the value for the due performance of the contract.

By order, ANTONIO BRADY, Registrar of Contracts and Public Securities. Contract Department, Admiralty, Somerset House, June 11, 1868.

Contract for Best British Iron.

BY ORDER OF THE SECRETARY OF STATE FOR INDIA IN COUNCIL.

NOTICE IS HEREBY GIVEN that the DIRECTOR-GENERAL OF STORES FOR INDIA will be READY, on or before Monday, the 15th June next, to RECEIVE PROPOSALS in writing, sealed up, from such persons as may be willing to SUPPLY—

BEST BRITISH IRON, And that the conditions of the said contract may be had on application, addressed to the Director-General of Stores, India Office, Westminster, where the proposals are to be left any time before Two o'clock P.M. of the said 15th day of June, 1868, after which hour no tender will be received. India Office, June 8, 1868. GERALD C. TALBOT, Director-General.

TENDERS.

COALS, CANDLES, TALLOW, OIL, GREASE, IRON, STEEL, LEATHER, NAILS, AND OTHER MATERIALS.

TENDERS for the SUPPLY of the above MATERIALS for TWELVE MONTHS—viz., from the last day of June inst. to the 1st day of July, 1869—for WEST CHIVERTON and other MINES, situate in PERRAN-ZABULOE, CORNWALL.

Coals to be delivered free of freight and portage in the company's yard, Garra's Wharf, Truro; all other materials to be delivered at the several mines free of carriage, in such quantities as may be required and ordered. The computed quantities of coal will be about 1000 tons, candles about 350 dozen lbs. per month, and all other materials in proportion. Tenders will be received on or before One o'clock on Wednesday, the 24th inst., and parties desirous to tender for the above materials can get full particulars by applying to Captain JULEFF, at Garra's Wharf; or to the Pursuer, to whom tenders must be directed, and endorsed "Tender for Materials," Garra's Wharf, Truro. RICHARD CLOUG, Pursuer, Liskeard.

Dated June 10, 1868.

TO CONTRACTORS AND SINKERS.

THE EAST MAES-Y-SAFN LEAD MINING COMPANY (LIMITED) require TENDERS for SINKING an ENGINE-SHAFT, already about 126 yards deep, to the further depth of 35 yards.

Full particulars and copies of the specifications may be had on application at the Registered Office of the company, No. 19, Pepper-street, Chester; or to Capt. J. PRYOR, Mold, Flintshire.

Tenders, addressed to the SECRETARY, to be sent in not later than Wednesday, 24th June, 1868.

The directors do not bind themselves to accept the lowest or any tender.

By Order, J. CALDECOTT, Secretary. No. 19, Pepper-street, Chester, 12th June, 1868.

THE DIRECTORS OF THE UPPER ELBE COLLIERY

COMPANY (LIMITED) are PURCHASERS, for cash, of—

ONE 35-in. cylinder PUMPING ENGINE.

TWO 4-horse or FOUR 20-horse horizontal WINDING ENGINES.

FIVE BOILERS, about 28 ft. long, by 4½ ft. diameter, with fittings complete.

About 40 fms. of 8 in. pitwork, in two lifts; a pair of pulley-wheels, 9 ft. diameter, with plumber-blocks; and the fittings of a blacksmith's shop.

Particulars and price to be sent to the offices of the company, 12, North-buildings, Broad-street, Terminus, E.C., London.

BROKER OR FINANCIAL AGENT, with a good connection,

REQUIRED TO CONSTITUTE and INTRODUCE a good CORNISH MINING COMPANY, with a small capital.

Address, "X. J.," MINING JOURNAL Office, 26, Fleet-street, London.

TO MINERAL AND ESTATE PROPRIETORS.

WANTED, by a Gentleman, a SITUATION as MINE or QUARRY MANAGER. He has had great experience in managing mineral properties, and in exploring estates. He can level, survey, &c., and is acquainted with engineering. Satisfactory testimonials.

Address, "A. Z.," MINING JOURNAL Office, 26, Fleet-street, London.

WANTED, a SITUATION as LAND and MINERAL SURVEYOR.

Testimonials, &c., on application to "H. J.," MINING JOURNAL Office, 26, Fleet-street, London, E.C.

WANTED, FOUR THOUSAND POUNDS, upon SECURITY

of an EXCELLENT COLONIAL COLLIERY.

Apply, with real name and address, to J. H. HOWARD, Esq., solicitor, 9, Quality-court, Chancery-lane.

COLLIERY PARTNERSHIP.—A Gentleman having taken an

extensive lease of some of the best HOUSE AND STEAM COALS IN NORTH WALES, is desirous of meeting with one or two Gentlemen to join him in OPENING OUT THE COLLIERY. Capital required, about £2000. A railway runs through the estate, and is situated in close proximity to markets where the coals are largely consumed. References exchanged.

Full particulars by addressing "Z. Z.," MINING JOURNAL Office, 26, Fleet-street, London, E.C.

MARINE TELEGRAPHY (LAMING'S PATENT).—

A SHARE of this PATENT for RAPID SIGNALLING THROUGH LONG DISTANCES, of which the first three years are about to expire without opportunity for a trial, is OFFERED ON REASONABLE TERMS to any Gentleman with capital and energy to bring it fairly before the public.

For information apply, in the first instance by letter, with real name and address, to J. E. SMITH, Esq., care of Mr. Laming, 10, Gloucester-place, Brighton.

CARNARVONSHIRE CONSOLS LEAD MINES (LIMITED).—

An OFFER WANTED for TEN SHARES (£4 fully paid).

Address, "C. W. P.," Post Office, 2, Devereux-court, Temple, London, W.C.

FOR SALE, very cheap, in consequence of a hereditary petition, a

TERRITORY of COAL BEDS, situated in the basin of ZWICKAU, SAXONY, comprising ONE THOUSAND FIVE HUNDRED AND TWENTY-SEVEN ACRES, with strata of EXCELLENT COAL, 50 feet in depth, and title free.

Further particulars of Mr. C. ZINCKEN, at Halle-on-Saale.

ON SALE, THE DOLGOCH SLATE QUARRIES,

TOWYN, MERIONETHSHIRE.

These quarries contain the same veins, and are situated only 1½ mile W.S.W. of the renowned Bryn-yr-Eglwys Quarries. A plentiful and constant supply of water flows through the premises, and the Towy and Tal-y-Llyn Railway passes within fifty yards of the works, with running powers already secured.

Samples of slate can be seen on the premises, and ample means are afforded of inspecting the veins.

Further particulars may be obtained from Wm. Wms. JONES, Towyn.

MINE LEASE.—FOR SALE, on favourable terms, the valuable

LEASE of a FIRST-CLASS SILVER-LEAD MINE, situate thirteen miles south of TREGARON, in CARDIGANSHIRE, in the immediate neighbourhood of several well-known rich mines. The sett comprises 500 acres, with ample water-power. A shaft has already been sunk on one of the lodes to a depth of 18 fms., and several parcels of rich silver-lead ore sold, which realised a high price. It has also been most profitably worked by well-known practical miners, and it is believed that a very moderate additional expenditure would suffice to render it a permanent dividend mine.

Address, "J. S.," MINING JOURNAL Office, 26, Fleet-street, E.C.

COPPER MINING IN CORNWALL.—NINE-TWENTIETHS

of a first-class COPPER MINING PROPERTY remaining TO BE SOLD, at £100 per twentieth share. The mine is all that can be prospectively desired as to promise and position of surrounding profitable undertakings, and is more than likely to prove a prize beyond the ordinary character.

None need apply who do not embark for investment; the pioneer points will take a year to realise; and all applications must be accompanied by a deposit of £20 per share.

Apply to—Mr. R. TREDINNICK, Consulting Engineer, 3, Crown-chambers, Threadneedle-street, London, E.C.

ENGINES AND BOILERS FOR SALE.

MESSRS. NICHOLLS, MATHEWS, AND CO. have FOR SALE

ENGINES of VARIOUS SORTS and SIZES, AND SEVERAL GOOD TEN TON BOILERS. All are in excellent condition, and well worthy the attention of purchasers.

Full particulars may be obtained by applying to Messrs. NICHOLLS, MATHEWS, and Co., Bedford Ironworks, Tavistock.

AMERICAN MINES.

MR. R. P. ROTHWELL, Mining Engineer and Metallurgist, OFFICE.—WILKES BARRE, PENNSYLVANIA, U.S. Having a LARGE EXPERIENCE IN EUROPEAN and AMERICAN MINES, can FURNISH RELIABLE INFORMATION on the VALUE of MINERAL PROPERTY in any part of the UNITED STATES or the dominion of CANADA.

BIRMINGHAM FINANCIAL COMPANY (LIMITED),

OFFICES.—WATERLOO STREET, BIRMINGHAM.

CAPITAL.—HALF A MILLION,

Reserve fund, £2,000.

ADVANCES made upon approved real and other securities.

DEFERRED PAYMENTS on Wagon Leases and other contracts purchased or advances made thereon.

HENRY ALLBUTT, Secretary.

LEAD ORES.

Date.	Mines.	Tons.	Amount.	Purchasers.
June 3.—Pool Park	100	12 3 6	12 3 6	A. Eytton.
5.—Minera	100	12 3 6	12 3 6	Walker, Parker, & Co.
—ditto	100	12 3 6	12 3 6	ditto
—ditto	41	12 3 6	12 3 6	ditto
—ditto	80	12 3 6	12 3 6	ditto
—ditto	104	12 3 6	12 3 6	ditto
—ditto	85	12 3 6	12 3 6	ditto
—Great Laxey	100	22 6 0	22 6 0	Sims, Williams, & Co.
—Dyflfe	52	11 18 0	11 18 0	Walker, Parker, & Co.
6.—Cardiganshire	40	11 18 0	11 18 0	Sims, Williams, & Co.
8.—Frongoch	130	10 18 6	10 18 6	Walker, Parker, & Co.
—Goginan	33	16 16 0	16 16 0	ditto
—East Darren	75	15 11 6	15 11 6	A. Eytton.
—Cwm Erlu	63	15 7 6	15 7 6	Sock and Co.
—West Cwm Erlu	44	11 11 0	11 11 0	Sims, Williams, & Co.
9.—Maes-y-Safn	50	12 5 0	12 5 0	Panther Lead Co.
—ditto	50	12 7 6	12 7 6	ditto
—ditto	50	12 5 0	12 5 0	ditto
—ditto	35	12 7 6	12 7 6	ditto
11.—Talarogoch	62	13 4 6	13 4 6	Walker, Parker, & Co.
—ditto	138	13 14 0	13 14 0	A. Eytton.
—Bryn Gwlog	32	12 11 6	12 11 6	Walker, Parker, & Co.
—Tregogan	20	12 18 6	12 18 6	ditto
—Great Rosmor	24	11 13 6	11 13 6	ditto
—Hollywell Level	40	11 9 0	11 9 0	A. Eytton.
—North Henblas	10	10 16 6	10 16 6	Walker, Parker, & Co.
—Brynford Hall	7	11 14 0	11 14 0	ditto
—South Pantyne	13	11 8 0	11 8 0	ditto
—Sir Edward	5	11 10 6	11 10 6	P. Glover.
—North Hendre	5	12 6 6	12 6 6	Walker, Parker, & Co.
—ditto	5	13 5 0	13 5 0	A. Eytton.
—Old Westminster	35	11 16 6	11 16 6	Walker, Parker, & Co.
—Gronant	5	13 5 0	13 5 0	A. Eytton.
—Summer Hill	5	2 10 0	2 10 0	Walker, Parker, & Co.

BLENDE.

Date.	Mines.	Tons.	Price per ton.	Purchasers.
May 22.—Pool Park	5	£ 3 12 0	£ 3 12 0	Kenrick and Co.
June 5.—Minera	116	4 5 6	4 5 6	H. Southern.
—ditto	60	3 16 0	3 16 0	Bagillt Company.
—ditto	66	3 7 6	3 7 6	H. Southern.
—ditto	23	3 15 6	3 15 6	ditto
10.—Tregogan	160	3 10 6	3 10 6	Bagillt Company.

BLACK TIN.

Date.	Mine.	Ts. c. q. lbs.	Price per ton.	Amount.	Purchaser.
June 11.—Mary Hutchings	5	13 12 ..	£ 329 8 10	£ 329 8 10	Daubuz.

COPPER ORES.

Sampled May 20, and sold at Swansea, June 9.

Mines.	Tons.	Produce.	Price.	Mines.	Tons.	Produce.	Price.
Knockmahon	88	99	£ 18 6	Var	22	37½	£ 28 9 6
ditto	96	104	7 0	Spanish Ore	21	16½	12 12 0
ditto	100	99	6 18 6	ditto	8	49½	29 9 0
ditto	81	104	7 7 0	ditto	3	55	40 1 6
ditto	133	88	6 7 6	ditto	3	21½	17 10 0
ditto	126	97	7 2 0	ditto	1	27½	20 14 0
ditto	125	54	3 15 0	ditto	2	17½	12 1 0
Berehaven	94	10	7 4 6	ditto	1	20½	14 0 0
ditto	88	84	7 2 0	Copper Reg.	37	38½	38 10 6
ditto	93	7 3 6	7 3 6	ditto	19	11½	22 17 0
ditto	123	93	7 6 6				

LONDON OFFICE,—9B, NEW BROAD STREET, E.C.

There are other points of interest in this mine of great promise, which will be described hereafter as the works progress.

The agent on the mine writes on May 25, 1868 :—"I have this day been underground, and propose to set men to work to break down a quantity of ore similar to that lately sampled, as I am sure large quantities, quite equal in quality, can be taken away."

_____, and is the owner of the company;

nd T. GILBERT, 4, Cop

TRADES UNIONS.—Is urged by the advocates of Trades Unions that the effect of their operations is to secure higher wages to the workmen, but it is certainly difficult to see any very distinct evidence of it. Whatever tends to cause the wages of working men to be uniform, and fails to recognise varying degrees of merit, is detrimental to progress, and injurious to the general welfare of mankind. Yet this is what trades unionism is bringing about. To the unionist a puddler is a puddler, and he will not consider that the workman turned out by a socially dissimilar, that is, a non-union employer, is more probably to pay on 2d. for the same number of turns as he would pay the other 1d. 10s. The trades unionist would have both paid 1d. 15s.; consequently, the best men refuse to pay to Unions, and intelligent employers refuse to employ Union hands, well knowing that the most desirable men are not to be found among them.—A. B.

FOREIGN COMPETITION IN IRON AND MACHINERY.

The Journal has recently spoken somewhat plainly upon this Belgian iron and machinery business, in particular in connection with certain clever finance movements in regard to railway work. We were in conversation a day or two ago with an ironmaster of considerable experience in continental trade, and the Belgian matter came up. He remarked that in negotiations he was frequently being told by customers that they could get iron from Belgium at a cheaper rate than he could supply it. Figures were quoted, and they occasioned his surprise. He at once wrote to London, and desired that a certain quantity of the iron might be sent to him at the prices quoted. The reply was that it was all gone, and this took place more than once. The experience of others he assured us was similar. We know that a few girders of certain dimensions are coming into England from the Continent, whence because of their pattern they can be had as yet cheaper than in England, owing to the small demand at present expressed in this country. It is also known that some locomotives are running here that have been made upon the Continent, but the extent to which portions of the machines have been made of English material, and in some part of English work, which the Journal has pointed out, is not so notorious; and their quality even after that has been the subject of criticism by one of our engineering contemporaries. Much was said sometime ago in support of the statement that 40,000 tons of rails for Russia had gone to Belgium. Of this a point was made by Mr. LLOYD JONES, who, quoting from "Thom's Trade Circular," said:—"For rails of a high quality, such, for instance, as the Brighton or East Indian railways would put down, we have nothing to fear at present from Belgium, because the tests employed are declared insupportable at the foreign works, and it is only in common iron that their prices even approach those of Wales. They have not secured the 40,000 tons of rails, as stated." In the article in the Journal to which we have just referred, the extraordinary manipulating in the matters of payment, and the like in transactions affecting Belgian-made rails and machinery, was sketched. In respect of this 40,000 tons of rails, we happen to know that they really were at first taken by Belgium, but that subsequently it was found that after much negotiation the terms of payment were not such as could be accepted, and the order found its way to this country upon revised terms. Recently, however, 20,000 tons offered to Great Britain have to our knowledge been rejected here because of the terms of payment, but have been accepted in Belgium. This last is the principal Russian order which the Belgians have secured this year, and, as is seen, they have taken it, not because the iron could not have been made here at the price, but because the proffered payments were fishy. This will be found, as may be inferred from the extract in "Thom's Circular," to be at the foundation of most of the transactions in iron and machinery going from Belgium to countries which we might have been expected to supply. The entire product of Belgian pig-iron is scarcely 40,000 tons, whilst ours is 5,000,000 tons. Her competition is not, therefore, felt, excepting during a time of conspicuous slackness in our own country, and even then, as we have shown, it relates chiefly to orders that the British masters reject. At the present time Belgium is doing scarcely half work, yet, so far as we know, she has not this year secured, even under the conditions to which we have drawn attention, more than, perhaps, 35,000 tons of rails for foreign markets. If it be remarked that Belgium's ability to sell finished iron is not confined to her capabilities,

The English innmaster and machinist have competitors upon the Continent, and that competition is assisted, first, by the very low wages which the workmen there accept as compared with those paid in this country, and it is further helped by the action generally of Trades Unions in this country, but in a time of good trade the competition is of no great magnitude. It is felt, as we have before remarked, almost exclusively during a time of bad trade.

With regard to the seams of coal which run through the two counties named by Mr. BROWN, the two principal are undoubtedly those which take their rise in Nottingham and extend in a northerly direction to Leeds, the western limits being well defined, but the eastern, which is under the New Red Sandstone, only partially so. In this mighty coal field, which Mr. WOODHOUSE says is unrivalled by that of Durham and Northumberland, or South Wales, "two great seams of coal exist, worked almost uninterruptedly from one extremity of the coal field to the other." The lower or Silkstone seam, which is found at a moderate depth in the south, but increases as it goes to the north, in the Barnsley district, for instance, at Darfield Main, it will be 635 yards in depth, although not sunk to. The bed is a first-class house coal, and a favourite in the London market, and also contains a large quantity of gas. The upper bed, or what in Yorkshire is termed the Barnsley bed, is worked at Cinderhill, near Nottingham, varying in thickness, at Staveley being about 6 feet whilst it reaches 9 feet at Barnsley. Should those two seams be worked on the Clifton estate, as it is probable they will be, great credit indeed will be due to all who have aided in opening out a new and valuable field, which geologists have not noticed, so far as we are aware, and leads to the inevitable conclusion that there are many other large districts that merely want pricking to lead to valuable beds of minerals being found in them.

What those reasonable principles were may be inferred from his statement that whilst it costs \$100,000 to set a 1000-ton ship afloat in New York, it costs only half that money to do the same in St. John, the difference being by Mr. PIKE attributed exclusively to the tariff. A New York correspondent, writing on May 19, remarks that, owing to the cessation of reciprocal trade, and the increase of tariff duties, shipbuilding has almost ceased in the United States. Workmen who were engaged in the business are glad to turn their hands to any less remunerative employment they can find; men who were once chief engineers accept places as oilers of machinery or other subordinate positions; and the only two remaining American steamers for foreign ports are advertised for sale. If, he adds, America cannot compete

with foreign countries in shipbuilding without free trade in timber, cordage, iron, sheathing, &c., the same argument will hold good when applied to the manufacture of pocket knives and railroad bars.

The reply to Mr. PIKE really supported his application. The chief argument on the part of Mr. KELLEY, who is the leader of the Protectionists in the House of Representatives, being a warning to America to take example from England, which was now in her decadence, and had dwindled into a third or fourth-rate power, "through having sacrificed her mining and manufacturing interests to her carrying trade." It is confidently believed that when Congress turns its attention to the question earnestly, the Protectionists will find their ranks thinned by more desertions than they yet reckon upon. It is a significant fact that the seven Conservative senators whose votes acquitted Mr. JOHNSON are amongst the number who favour a more liberal tariff than that now in operation.

THE IRONWORKERS' COMBINATION.

When Mr. JOHN KANE was before the Trades Union Commissioners he said that the combination which he represented, and of which he was the President, at a salary of 140*l.* a year, was the National Association of Ironworkers; that the number of men in his Union was at one time about 6500, and the income from July, 1865, to July, 1866, was something like 4000*l.*, after paying off very heavy claims, consequent on the strike in the earlier year; but that now the income was not more, he thought, than about 1000*l.*, because many men were out of employment. Last week attention was drawn in the Journal to the manifest hollowiness of the claim which the association represented by Mr. KANE sets up to be called by the high-sounding title which it has assumed. The past week has furnished particulars even more conclusive upon this point. So little does the association represent the malleable ironworkers of Great Britain, that only 119*l.* 4*s.* 3*d.* was contributed in the week ending June 2 towards the maintenance of 1525 men on strike, by which all will be benefited if it should succeed. Of that 119*l.* 4*s.* 3*d.* all but about 50*l.* was contributed in Staffordshire and the immediate locality, and even the 68*l.* 16*s.* 6*d.* obtained there included 5*l.* from the flint-glass makers of Birmingham, and a similar sum from the Kidderminster Trades Council. The expenses show 3*l.* expended in sending six delegates to North Stafford, and the receipts show 4*l.* 12*s.* as the result of the mission—so very grateful are men at the close of a strike for liberal contributions forwarded to them during a struggle. The total amount available for disbursement was 104*l.* 7*s.* 3*d.* This sum was distributed at the rate of 1*s.* 6*d.* per head to 1316 forehands, and at 9*d.* per head to 209 underhands, thus showing a falling off on the week of just one-half in the amount of money which was disbursed, and a reduction of 25 per cent. in the individual sums paid to turn-outs, notwithstanding that their number was 500 fewer than in the previous week. If this is all that can be done by an organisation which pays a president 140*l.* a year, and two secretaries each very little less, there surely must be room for concluding that during the few weeks which have intervened since Mr. KANE said its income was 1000*l.* a year there must have been a great falling off in the contributions. The facts fully bear out the statement which was made in this place at the beginning of the strike—that it was undertaken by many members to get back as much as possible of the funds which had been paid in, and then by leaving the Union altogether adopt a less extravagant method of providing against a day of adversity.

TENDERS FOR SUPPLIES.—The feeling that in some cases the working of Cornish mines is carried on with more consideration for the interest of the local merchants than for that of the general body of adventurers has long been increasing, and, although it is true that there is frequently no ground whatever for the suspicion, some change was absolutely necessary to give confidence to the mining capitalist. The principle of purchasing all materials by tender appeared well calculated to meet the difficulty. In another column there appears an advertisement requesting tenders for coals, candles, oil, and other materials required for West Chiverton and other mines. The course adopted by the managers of these mines must prove very satisfactory to the out-adventurers, since it shows that at least in their companies particular local merchants have not the power, as generally supposed, of foisting upon the mines inferior articles at excessive prices. If the improved system were generally adopted much of the odium which attaches to mine management would be removed.

EXPORTS OF IRON AND STEEL.—The value of the iron and steel exported from the United Kingdom in 1867 was unprecedentedly large, being 15,126,912*l.*, as compared with 14,842,417*l.* in 1866, 13,471,359*l.* in 1865, 13,310,484*l.* in 1864, 13,150,936*l.* in 1863, 11,365,150*l.* in 1862, 10,326,646*l.* in 1861, 12,154,997*l.* in 1860, 12,314,437*l.* in 1859, and 11,197,072*l.* in 1858. The great cause of the expansion in last year's figures was the increase in the demand for railway iron, which was exported to the value of 4,889,389*l.* in 1867, as compared with 4,183,198*l.* in 1866, 3,550,563*l.* in 1865, 3,305,086*l.* in 1864, 3,278,304*l.* in 1863, 2,817,877*l.* in 1862, 2,906,359*l.* in 1861, 3,408,759*l.* in 1860, 4,124,208*l.* in 1859, and 3,565,224*l.* in 1858. The increased consumption of railway iron in the United States and British India swelled the value of last year's exports under this head. The exports of unwrought steel have considerably extended during the last ten years, but showed a slight depression in 1867 as compared with 1866.

THE EXPORT COAL TRADE.—The quantity of coal exported from the United Kingdom in April was 1,038,426 tons, as compared with 829,505 tons in April, 1867, and 930,079 tons in April, 1866. The exports to France in April were 156,607 tons, as compared with 172,410 tons in April, 1867, and 141,073 tons in April, 1866. With this exception, and with the exception also of slightly reduced deliveries to Holland, Italy, and the United States, it may be said that the exports of coal from the United Kingdom generally increased in April. The total exports of coal from our shores in the four months ending April 30, this year, were 3,109,388 tons, as compared with 2,716,700 tons in the corresponding four months of 1867, and 2,915,877 tons in the corresponding four months of 1866. After a considerable period of continued progress the exports to France appear to have sustained a check, having amounted to April 30, this year, to 627,101 tons, against 656,942 tons in 1867, and 576,471 tons in 1866 (corresponding periods). The exports have increased this year to Russia, Sweden, Denmark, Prussia, the Hanse Towns, Holland, the United States, Brazil, and British India, but they have decreased as regards France, Spain, and Italy. The value of the coal exported in April was 506,108*l.*, as compared with 426,877*l.* in April, 1867, and 471,980*l.* in April, 1866; and in the four months ending April 30, 1,556,649*l.*, as compared with 1,421,955*l.* in 1867, and 1,494,382*l.* in 1866.

OUR IMPORT AND EXPORT METAL TRADE.—The usual annual return of exports and imports of copper and copper ore and regulus, tin and tin ore, lead and lead ore, spelter, and zinc, for the year ending Dec. 31, shows that in 1867 there were imported into the United Kingdom 73,957 tons of copper ore; 28,825 tons of regulus; 9621 tons of copper unwrought in bricks or pigs, rose copper, and cast copper; 20,042 tons of partly wrought copper; 22 tons of plates and sheets; 2 tons of coin-plating and copper coin; and 8902*l.* worth of copper manufactures and engraved copper plates. The exports of British copper consisted chiefly of sheets, nails, yellow metal, &c. The total quantity of copper (exclusive of ore) was 37,696 tons. Of ore, the exports amounted to 646 tons, of which 1 ton went from Harwich to Belgium, 3 tons from Newhaven to France, 1 ton from Swansea to foreign West Indies, and the remainder from Swansea to the Southern Atlantic ports of the United States. For copper, both unwrought and in sheets, the continental territories of British India were our best customers, taking 4184 tons of pig, and 14,102 tons of sheets, &c.; and France, Belgium, China, and Hong Kong follow next in rotation. The foreign copper re-exported (the export being chiefly to France and Belgium) consisted of 769 tons of ore, 468 tons of regulus, 3310 tons unwrought, 10,855 tons of bars, rods, &c., and 557*l.* worth of copper manufactures and engraved copper plates. The import of tin, chiefly from Singapore and the Straits, amounted to 3430 tons. Victoria and Peru sent the largest proportion of tin ore and regulus, the aggregate imported being 309 tons. Turning to the exports of tin, France appears as our best customer, the United States and Russia being next, Holland, Prussia, and Turkey following next in

rotation. The total exports were 4226 tons of British and 1329 tons of foreign tin. Our principal supply of zinc comes from Hamburg, Belgium, Prussia, and Holland, and the greater part of the zinc ore came from Sardinia, Spain, and France. The total imports—zinc ore; spelter; 33,818 tons; zinc ore, 12,194 tons; oxide of zinc, 2048 tons. The exports of zinc, chiefly to British India, and zinc ore were—zinc, British, 7337 tons; foreign, 6782 tons; zinc ore, 98 tons; and oxide of zinc, 37 tons. Spain and Greece supplied us with the largest quantities of pig-lead and sheets, whilst Sardinia sent the largest quantity of lead ore. The total imports were—pig and sheet, 45,158 tons; lead ore, 9146 tons; red lead, 85 tons; and white lead, 1137 tons. Our best customers for lead were the United States, British India, and France, the total exports being—ore, 174 tons (sent chiefly to British India); pig, 19,726 tons; rolled and sheet, 4958 tons; piping, 2047 tons; shot, 2388 tons; litharge, 495 tons; red lead, 3963 tons; and white lead, 5026 tons.

MINING, METALS, AND MINERALS—PATENT MATTERS.

BY MICHAEL HENRY,

Patent Agent and Adviser, Memb. Soc. Arts, Assoc. Soc. Eng.

The manufacture of gas and coke forms the subject of a patent granted to Mr. JOHN YOUNG, of Aspull, Lancaster. The title of the patent is Improvements in the Application of Cannel Coal ("slack") to the Manufacture of Gas and Coke. The object of Mr. YOUNG's invention is the treatment of Cannel coal (slack) in such manner as to render it suitable for the manufacture of illuminating gas and coke for economical results. This is performed in the following manner:—First, by crushing the Cannel coal (slack) by suitable machinery into such sized pieces as shall destroy the cohesion of the pyrites and carbonate of lime adhering to the crystals of the coal, and subsequently washing the crushed slack in any well-known machine, which is so arranged in its parts and motions that it separates the impurities from the coal, and all other matters having a greater density than the coal itself; and, secondly, the invention consists in drying and warming the purified slack, and mixing it with any hydrocarbon pitch containing paraffin, naphthaline, or other constituents which are convertible into illuminating gas, and only fusible at a high temperature, and then forming the mixture into blocks by pressing it into moulds by well-known machinery. By the mixture employed the quantity and quality of the gas-yielding properties of the Cannel are enhanced; and, further, the block when so formed is rendered impervious to air and moisture, and, therefore, protected from the deteriorating influence to which coal is subject when kept long in store, and by removing the sulphur and the lime from the coal the manufactured gas is much more easily purified, and the quality of the coke is also improved by abstracting the elements forming the ash and clinker.

GEORGE DORSETT, EDWARD DORSETT, and JOHN BENNINGTON BLYTHE, all of London-street, have recently specified a patent relating to a mode of, and an apparatus for, burning gases arising from the distillation of liquid hydrocarbons, and also in economising fuel by the said process. According to this specification, the patentees state that the gases produced by the distillation by heat of liquid hydrocarbons, such as coal tar, creosote, coal and shale oil, petroleum, and other matters of a like nature, are burned in the following manner:—The gas produced from the matter under distillation (such as coal tar, at that stage of the process in which the heavy oil has commenced to run from the worm) is caused to pass through a pipe, commencing at the top of the boiler, generator, or retort, and terminating in the ash-pit, or furnace; it is there burned either by allowing it to pass through the fire on the grate-bars, or through a burner formed with a series of holes, or upon a diaphragm, as in the case of the ordinary gas burners used for cooking. This part of the process is particularly adapted for application under tar and petroleum stills. In the case of marine steam-boilers, they produce the gas by the distillation of the hydrocarbon fuel in retorts or generators, heated by a communication with the furnaces, or otherwise, and placed close to the boiler; from these retorts, or generators, the gas passes through pipes heated externally by steam, or otherwise, into the ash-pits of the boiler furnaces, where it is burnt in the manner above described upon the grate-bars, or by passing it through the fuel. Amongst recent applications for patents may be mentioned the following:—WADDINGTON and LONGBOTTOM, of Barrow-in-Furness, moulds for casting Bessemer steel and other metals. MELDRUM, Bathgate, Linlithgow, purifying paraffin. M'OWEN, Rochdale, fire-grates. HANSON, Dukinfield, furnaces. RAUSCH and DARLET, Brussels, artificial fuel. SAUNDERS, Sydenham, hygienic oil or gas stove.

REPORT FROM SCOTLAND.

JUNE 10.—The Pig Iron market has been more active this week, on account of some of the "bears" purchasing to cover previous sales, but prices have not advanced. On Monday the market opened steady, and business was done at 5*l.* 6*d.* cash, and 5*l.* 9*d.* a month; yesterday the market exhibited the same characteristics, closing with sellers at 5*l.* 7*d.* cash, buyers offering 1*d.* a ton less. To-day about 3000 tons were done at 5*l.* 6*d.* cash, 5*l.* 9*d.* a month, closing still buyers, sellers asking 1*d.* a ton more. No. 1, g.m.b., 52*s.*; No. 3, 50*s.*; Coltness, 57*s.*; Gartsherrie, 55*s.*; Langloan, 54*s.* 6*d.*; Glengarnock (at Ardrossan), 54*s.*; all Eglinton brands, 51*s.* The returns of shipments from the Scotch portwharf show an advance on last year, being for the week just ended 13,650 tons, against 12,910 tons in the corresponding week of 1867. Of the furnaces built there are 115 in blast, being an additional one at Coltness, and 49 out of blast, making a total of 164 furnaces; at the same time last year there were only 110 furnaces working. During May the average price of pig-iron was 52*s.* 2*d.*, and the average price in April of last year was 52*s.* The imports of Middlesbrough pigs continue, but there is some talk of a movement amongst the ironmasters to counteract the further increase. Malleable Iron can be had under the last price nearly 10 per cent., and makers of second quality are being offered as low as 6*l.* a ton for common bars, but, of course, the price was not accepted, although I dare say 6*l.* would have placed the offer in makers' books. The nominal price of best brands is 7*l.*; second brands, 6*l.* 12*s.* 6*d.* The incident above narrated shows the liberty buyers take with the list price. Makers are all well employed at hand-to-mouth orders, which came dropping in from day to day, after as much haggling about the price as if the orders were of some consequence. There are fears of a reduction in wages being inevitable, and if a strike should result, it will have a tendency to better prices.

The Coal Trade, according to the version being given by the coalmasters, is passing completely out of their hands into those of the ironmasters, whose wagons are to be seen travelling along our lines of railway, or standing at all the coal depots and ports in the kingdom. This is quite an unusual sight; and when the coalmasters find the ironmasters taking possession of their market, by giving lower quotations, they should endeavour to keep their own ground by pursuing a similar course. The ironmasters are selling coal at a price equal to 2*s.* 8*d.* a ton at the pit; can coalmasters not do the same thing, and end this game of "beggar-my-neighbour"? Pretty large shipments have been returned for the week just ended, but 10,000 tons of the quantity were shipped from the port of Ayr, and extend over a month. Total this week, 34,165 tons; same week last year, 27,335 tons. Drummore Colliery, Midlothian, is in the market to be let, with machinery and plant, as at present in use.

The miners, with the view of ascertaining how far a general strike would be practicable, have summoned several meetings of delegates; and, notwithstanding very persistent efforts to rouse the hands up to the striking point, there seems to be an ill-concealed reluctance on the part of the great bulk of the men to enter upon it. No class of men know better than the miners what a strike means, and when to that is added that it is to be a "general" strike, they are wise enough to see that there will not be a resting place for the soles of their feet during its continuance. They ought to be admonished in time against intensifying the evils of their present condition a hundredfold. At a meeting of delegates, held at Motherwell yesterday, the Chairman entered upon the business by expressing regret that it was so ill attended, and then called for the reports. As they were proceeding, Mr. Alexander McDonald attacked the Wishaw delegate in snappish and acrimonious terms, which was kept up to the close. At the last meeting it was agreed that Mr. McDonald should agitate the counties of Fife, Clackmannan, Linlithgow, Edinburgh, Haddington, and Seirling. In order to do this effectually and expeditiously, he had got 1500 circulars printed, and had distributed them to over 800 men in the various collieries in the districts. He received a great many letters in reply, stating that meetings could not be got up, "owing to the heartless apathy of the men," &c. He could have held meetings in the various counties, but the expense of printing had already

swallowed up the funds. He had incurred responsibilities before and paid them, but he was determined not to do so again. All was now ready—the country ready and ripe for action, and it remained with the meeting to say whether the movement was to go on or fall to the ground. This spirited peroration of Mr. McDonald's gave rise to a kind of Donnybrook, which was ultimately closed by the delegate from Eastfield moving that the men in each work should send in 6*d.* a man to the Committee for National Agitation, which was agreed to, and the meeting shortly afterwards broke up, without coming to any present conclusion about the strike. This national agitation is for an advance of 1*s.* a day on miners' wages.

The shipyard employees are all fully engaged, some men making overtime to get forward vessels for launching. Denny Brothers, Dumbarton, have contracted for an iron screw ship with Jardine, Mathieson, and Co., for their China and Calcutta line. The African Steamship Company have had a large screw launched for their trade on the West Coast of Africa. This vessel, which is of 1399 tons b.m., is also to carry the mails, and is named the Blafra. Another screw, of 1065 tons b.m., has been launched for the British Indian Steam Navigation Company, with engines of 200 horse-power. The river steamer Celt has been purchased, and is destined to do duty on the Hoogly as a tug.

REPORT FROM NORTHUMBERLAND AND DURHAM.

JUNE 11.—The Coal and Coke Trades continue dull on the whole. There are exceptions to this rule, but dullness is the prevailing feature. At the Black Boy Collieries, and some others in the Auckland district, the works have been kept on full time throughout, but this is an exception to the rule which still too generally prevails. It must not be supposed, however, that there is any lack of spirit in the trade caused by this dullness; on the contrary, there appears to be a confident feeling that a good demand for minerals must return again soon. The number of new workings and borings for coal going on sufficiently attest this. In the Auckland district several new workings are in progress; those by Strakers, Love, and Co., and others, are important; and the Black Boy Company have lately bored, and an excellent coking coal, 4 ft. in thickness, has been proved. Two shafts are shortly to be sunk for the purpose of working the seam.

The Iron Trade appears to show some indications of reviving vitality. At the weekly iron market, held in the Town Hall, Middlesbrough, on Tuesday last, the tone was better, but there was not a large amount of business done. For forged iron there were a good many enquiries, and shipbuilding iron was reported to be in tolerable request. The official prices for pigs were returned as follows:—No. 1, 46*s.* 6*d.*; No. 3, 43*s.*; and No. 4, 42*s.* It was generally believed that trade prospects were more encouraging. Messrs. Backhouse and Dixon, of Middlesbrough, have received an order to build another steamer for Gillan, Schmidt, and Co., Glasgow. At the close of the market a meeting of ironmasters was held, and a deputation was appointed to wait upon the North-Eastern Railway Company, with other deputations, upon the question of increased dock accommodation at Middlesbrough. This latter subject has attracted much attention lately, and deservedly so, as that appears to be a most urgent want at this important port, and the extension of its commerce depends entirely upon this being provided.

A general meeting of the North of England Institute of Mining Engineers was held at Neville Hall, Newcastle, on Saturday, when there was a good attendance of members, the chair being occupied by the President, Mr. T. E. Forster. Several new members and graduates were elected, after which Mr. Cooper's paper, on "An Outburst or Sudden Issue of Fire-damp at the Stafford Main Colliery, Barnsley, Yorkshire," was open for further discussion, but first some additional observations on the subject, by Mr. Cooper, were read by the Secretary, and the discussion was adjourned till the next meeting of the Institute. A very interesting paper was then read by Mr. A. S. Rake, on "Cameron's Special Steam-Pump," with a few facts as to its use in mining operations and elsewhere. Diagrams were exhibited fully explaining this very compact and useful pump, which appears to be remarkable for simplicity and efficiency; and also a working model was shown, and fully explained by Mr. Rake. A specimen of coal was also shown from Port Natal. This coal was sent to the institute by Mr. Joseph Cowen, jun., and it has been analysed by Mr. John Pattinson, and the result given to the meeting, from which it appears that it contains upwards of 60 per cent. of carbon. The coal in appearance bears some resemblance to some of the steam coals of this country.

An agreeable and interesting meeting of Northumberland miners took place on Monday, to celebrate the fifth anniversary of the establishment of the local Miners' Association. It is estimated that not less than 12,000 persons assembled on the Links, and a regular holiday festival was held. Both the colliers and their wives and daughters were well attired, and appeared thoroughly to enjoy themselves. There were sports and music in abundance, and the flags and banners from the different collieries, gave the whole scene a very animated appearance.—Mr. John Nixon, who acted as chairman of the meeting, congratulated them upon the favourable position of the association; their present balance being 4024*l.* 7*s.* 11*d.*, or nearly double that of last year.—Mr. R. Fynes considered the last day the men and masters much good; there had been no strikes, lock-outs, or yearly bonds introduced of late, and they were working harmoniously with their employers.—Mr. Thomas Burt thought that the doctrine taught as the political economy of the 18th century was a bad one, and ill-founded, and that it afforded some ground for the men to unite, and to do the best that they could to withstand those innovations and inequalities. It was thus that capital and labour were brought in direct antagonism; it was thus that their interests could not be identical. He advocated co-operation as a remedy, the motto of it being "Every man for himself and for his brother," and which would ensure payment of profit in proportion to labour, and induce mutual sympathy. In noticing the fact that Trades Unions had been on their trial during the year, he remarked that it had been said amongst other things that the miners and ironworkers were driving trade to Belgium, and in replying to that assertion pointed out that in 1865 England exported to Belgium 17,809 tons; in 1866, 61,486 tons; in 1867, 169,089 tons of coal; and in 1865, 23,422 tons; and in 1866, 28,451 tons; and in 1867, 50,722 tons of iron. The exports of iron had more than doubled during the last two years; and their coal trade had increased tenfold at the time their public men had almost screamed themselves hoarse about their trade going to Belgium; but they need not trouble themselves on that score, as the whole produce of the country in coal and iron was trifling compared with this; but if it was not the case, they must be a conceited people to imagine that the world was made for them alone, and that they were to have a monopoly of the trade.

On Monday night a boiler explosion took place at Kelloe New Winning, by which two men lost their lives. The place in question is a pumping-shaft sunk between Kelloe and Five Houses Collieries, and is used solely for the purpose of keeping these mines clear of water. About half-past seven o'clock on Monday night one of the boilers of the range kept for working the pumping-engines suddenly exploded with a loud report, forcing three of the other boilers of the tier out of their places, and throwing a huge mass of iron, about 5 tons in weight, right over the engine-house. One of the firemen, named John Smith, was in the fire-holes at the time; and, as ill-fate would have it, a pitman, named John Searth, was coming down into the fire-holes to speak to Smith; both men were killed. The boiler which exploded was stated to be full of water at the time it went off, and the cause of the accident is said to be unaccountable.

Another lamentable accident occurred on Wednesday at Framwellgate Moor Colliery. It appears that when the dinner-hour arrived a lad named Jonathan Briggs, employed on the colliery, entered the engine-room of the colliery, where a man named S. Turnbull, the engine-man, was sitting getting his dinner. As the lad came in, Turnbull observed that the belt of the new screwing machinery (which has only been in working order four days) was not working right, and he told Briggs to try and put it right. Briggs went to the belt and endeavoured to rectify it, but before he could do so the cog-wheel caught a hole in his jacket sleeve, and dragged him among the revolving machinery. The boy screamed, and Turnbull, seeing his position, sprang to rescue him, if possible. He stumbled and fell, however, as he got to the lad, and the fly-wheel, which was going at the rate of 40 revolutions per minute, striking him upon the head, killed him instantly, also dragging his head and shoulders in among the machinery, which brought it to a standstill. Notwithstanding his injuries, the boy still screamed, which brought some other workmen to his assistance. After the removal of some boarding, and also after considerable exertion, under the direction of Mr. H. Gustard, the viewer of the colliery, they were got out of their fearful position, but Briggs ultimately died.

The correspondent of the *Birmingham Daily Post*, writing on the North of England iron trade, says that the rail mills at Middlesbrough, Stockton, Darlington, Winton Park, and the Tyne district have been in regular operation throughout the month. The contracts mostly in course of execution have been for the Russian, Dutch, and Austrian railways, also for Canada, and home companies. With respect to the American trade for rails, it appears by no means unlikely that a far greater proportion of the orders will in future find their way into Cleveland, from the fact that more attention has been directed in America to the superior qualities of their iron for making a durable rail. As long as American railways demanded cheap rails only, South Wales was able to supply the article more easily than any other district; but the report of the Special Commissioners appointed by the United States to visit the Paris Exhibition, to report on the iron and steel trades of Europe, has pointed out the fallacy of purchasing the cheapest kind of rails without any regard to quality, and already we find the enquiries coming to hand are more in the direction of a better class of iron. The question of economising fuel in the production of finished iron continues to receive much attention in the district. The Cleveland engineers have recently devoted their discussions to a consideration of the results of the Wilson and Newport furnaces, the former of which produces economical results, by utilising the whole of the fuel, and the latter by turning to account the waste heat given off in puddling. Both furnaces are producing excellent results, making a ton of puddled bars with an expenditure of 17 cwt. of coal in the Wilson, and of 16 cwt. of coal in the Newport furnace, grey iron being used, and six heats per day being made.

The total production of pig-iron in the district reached in May the astonishing total of 105,000 tons, which is at the rate of more than 1,200 tons per day. Messrs. Bolckow, Vaughan, and Co. blew three in the furnaces in a few days ago. These embrace all the modern improvements. They are 95 feet in height, and 25 feet in diameter at the bushes. The kilns attached are 50 feet in height—they are miniature furnaces, in fact—and are provided with an arrange-

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&c.—16. "On the Geological Peculiarities of that part of Central Germany known as the Saxon Switzerland," by the late Capt. James Clark: communicated by Sir R. I. Murchison, Bart., K.C.B., F.R.S., F.G.S., &c.

SCIENCE IN DOMESTIC ARRANGEMENTS.—The application of scientific knowledge to the purposes of ordinary life daily becomes more general; and in the warm weather, now commencing, it is probable that the ingenious little apparatus designed by Mr. SOREANSEN, of Duke-street, Grosvenor-square, will afford another evidence of the advantage derivable by the public from appliances which extended technical knowledge places at their disposal. The self-acting Norwegian cooking apparatus, here alluded to, is daily shown in operation at the Royal Polytechnic Institution by Mr. J. L. King, and is certainly a most remarkable little contrivance, and calculated to prove acceptable to pleasure parties and all who enjoy a hot dinner, without caring for the inconvenience of returning to some fixed spot—perhaps an unpicturesque hotel—to partake of it. The apparatus consists of a wooden box, thickly lined with felt, with the utensils necessary for containing the viands to be cooked within it. With this simple arrangement a hot dinner, in the finest condition, can be eaten 20 hours after it has left the fire. The meat and vegetables to be cooked are placed in the tin vessel, and just brought to a state of brisk ebullition, at once placed in the box of felt, covered with a thick felt cushion, and, closing the box, the arrangements are complete. The box may now be set aside or carried on a journey, and whether opened in two, five, or twenty hours, the hot dinner will be found ready.

LARGE WIRE ROPE.—The largest, longest, and heaviest wire rope ever made in one piece for an inclined plane has just been completed at the works of John A. Roebing, at Trenton, N. J. It is intended for the Lehigh Coal and Navigation Company, for the purpose of lifting coal out of the Wyoming Valley. The load hauled up each trip consists of 10 coal cars, weighing 30 tons, laden with 55 tons of coal, making a total weight of 85 tons. Speed of rope, 9 miles per hour; inclination of plane, 14 ft. 8 in. in 100 ft. The length of this wire rope is 3700 ft.; its diameter over 2½ in., and weight 20 tons.—*Miners' Journal.*

CUTTING GLASS BY HOT AIR.—According to *Les Mondes*, the use of hot air, or gas, for cutting glass, is a new and useful invention, already utilised by the Crystal Company of Calcutta. The hot gas issues from a pointed or flattened tube, and is driven directly upon the goblet or other object to be cut, which is placed in close proximity to the tube, and made to revolve upon its axis. A narrow circle of heated glass is thus formed upon the object in question, which being damped immediately afterwards, causes the glass to divide with extreme neatness at the part thus heated. The operation is more rapid and effectual, we are told, than any means hitherto employed for this purpose.

PIG LEAD.

MESSRS. WESTON AND COLLINGBORN SOLICIT ORDERS for SOFT PIG LEAD, which they are producing of the very best quality. Prices on application. WORKS, SWINFORD, GLOUCESTERSHIRE. OFFICE, —18, PETER STREET, BRISTOL.

SLATES.

WALNEY SCAR QUARRIES, SITUATE NEAR CONISTON OLD MAN.

For particulars and samples of these very durable green and grey slates, address "Manager," Walney Scar Slate Works, Broughton-in-Furness.

ELFORD, WILLIAMS, AND CO. COPPER ORE WHARFINGERS, SHIP BROKERS AND COAL EXPORTERS, METAL AND GENERAL COMMISSION AGENTS, SWANSEA.

ELFORD, WILLIAMS, and Co. having erected an assay office, and engaged the services of a practical Cornish assayer, who will devote his whole time to this branch of their business, they are now in a position to make correct assays of silver, copper, and other mineral ores, on the most moderate terms.

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TO BE SOLD, —A FIRST-CLASS NEW 14-horse power PORTABLE STEAM-ENGINE, with all recent improvements. Several GOOD SECOND-HAND PORTABLES TO BE SOLD, CHEAP. Apply to T. W. BARROWS, Engineer, Banbury.

IMPROVED APPLICATION OF WATER POWER.

THE TURBINE.

MAC ADAM BROTHERS AND CO., ENGINEERS, SOHO FOUNDRY, BELFORD, after twenty years of experience, have brought their IMPROVED TURBINE to great perfection.

It is applicable to all practicable heights of fall, giving much greater power from the water than any other kind of water-wheel. On low falls it has the great advantage of not being impeded by floods or backwater.

It is particularly well adapted for situations where the quantity of water is variable, and where all other wheels fail.

Its motion is extremely regular, and, when desired, a governor can be applied effectively.

This wheel is at work in a great many places, to which reference will be given.

DYNAMITE, OR NOBEL'S PATENT SAFETY BLASTING POWDER, May now be had from

MESSRS. WEBB AND CO., CARNARVON, Sole consignees from the patentee.

This powerful BLASTING AGENT will not explode from a spark, or concussion alone, but requires the combined effect of both, and is fired by a strong percussion cap and ordinary fuse. In a compressed state it may be fired in damp holes, or under water.

Force, SEVEN TIMES that of the BEST GUNPOWDER.

It will shiver to pieces cast or wrought-iron, or the toughest oak timber. No tamping is required. It is by far the safest explosive for blasting purposes ever discovered.

NITRO-GLYCERINE, OR NOBEL'S PATENT BLASTING OIL.

THE EXPLOSIVE FORCE of this BLASTING OIL is TEN TIMES that of GUNPOWDER, and the ECONOMY and SAVING in TIME, LABOUR, and COST in removing granite and hard rock, in sinking shafts, driving tunnels, and opening forward in close ends is immense.

It will not explode from a spark or fire, but from concussion alone, and is consequently much less dangerous than gunpowder or gun-cotton.

Being heavier than water it sinks to the bottom of a wet hole, no other tamping than water being required.

One charge of this blasting oil, which is now being used with wonderful effect in all the largest slate quarries in North Wales, will displace as much slate rock as four or five charges of gunpowder; and its great force, acting on a large quantity of good slate rock, shakes and displaces it at the natural joints, or cracks, without damaging the slabs nearly so much as the more numerous blasts from any other blasting material would do.

This invaluable quarrying agent may now be obtained from Messrs. Webb and Co., Carnarvon, sole consignees from the patentee.

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H. STATHAM AND COMPANY, MANUFACTURERS OF EVERY DESCRIPTION OF INDIA RUBBER AND GUTTA PERCHA VALVES, &c., WASHERS, BUFFERS, HOSE PIPES, TUBING, STEAM PACKING, BELTING, BLASTING TUBE FOR NITRO-GLYCERINE POWDER, AIR AND WATER PROOF ARTICLES.

To proprietors of mines, quarries, mills, railway and steamboat companies, and all large consumers, most advantageous terms are offered.

ANY ARTICLE MADE TO SKETCH OR PATTERN.

PRICE LISTS AND SAMPLES ON APPLICATION. 11, CORPORATION STREET, MANCHESTER; IRWELL WORKS, SALFORD.

CREASE'S NEW AND

IMPROVED PNEUMATIC TUNNELLING ENGINE.

THE PROPRIETORS of this INVENTION, in order to bring its CAPABILITIES more prominently before the PUBLIC, are OPEN TO TAKE CONTRACTS FOR DRIVING LEVELS. Preference will be given to ADIT LEVELS and those places where ROTARY MACHINERY is in use, and can be applied to driving the AIR-DRUM-PRESSOR.

Address—E. S. CREASE, 7, Hoe-street, Plymouth.

ESTABLISHED 1844.

GREAT BRITAIN MUTUAL LIFE ASSURANCE SOCIETY.

101, CHEAPSIDE, LONDON, E.C.

EMPOWERED by Special ACT of PARLIAMENT, 25th and 26th Vic., cap. 74. Terminating annual premiums and sums assured payable during life. PECULIAR ADVANTAGES OFFERED TO POLICY HOLDERS BY THIS SOCIETY.

The pro s applied—first, in extinguishing the premiums AT A GIVEN DATE, and afterwards in making the policy PAYABLE DURING LIFE; this important advantage being secured without the payment of any additional premium. ANDREW FRANCIS, Secretary.

In the Court of the Vice-Warden of the Stannaries.

Stannaries of Cornwall.

MICHELL v. HEWITT AND OTHERS.

IN RE TRESAVAN AND TRETHARRUP MINE.

THE SALE of SHARES, advertised to take place herein on this day, is POSTPONED to WEDNESDAY, the 17th day of June next, at Twelve o'clock precisely. J. G. CHILCOTT, Truro (Agent for Reginald Rogers, Plaintiff's Solicitor, Falmouth).

Dated Registrar's Office, Truro, June 3, 1868.

In Chancery.

In the MATTER of the COMPANIES ACT, 1862, and in the MATTER of the PLAS YN MHOWYS COAL, CANNEL, AND IRONSTONE COMPANY (LIMITED).

MR. JOHN ORMISTON WILL SELL, BY AUCTION, at the Grosvenor Hotel, in the City of Chester, on Saturday, the 27th of June, 1868, at Four o'clock in the afternoon, in One or Two Lots, as may be determined upon, and subject to such conditions as shall then be read—

THE VALUABLE COAL MINES AND OIL WORKS, known as PLAS YN MHOWYS.

Situate near MOLD, FLINTSHIRE, adjoining the Nergus Branch of the London and North-Western Railway, and connected with it by a private siding. The COAL MINES are well known in the neighbourhood, the only seam opened by the late proprietary being a Cannel seam, yielding the celebrated varieties of the district—viz., curly, smooth, and shale, which, from the peculiar formation of the ground, has been worked by the comparatively inexpensive process of a level, through which the coal is brought directly into the oil works, or to the siding of the railway, for transmission to market.

The OIL WORKS are extensive, and have been but recently erected at a very heavy expense, and combine all the best and latest appliances for the manufacture of oil, spirit, &c., and the conversion of the oil-yielding minerals of the neighbourhood into a marketable commodity.

The property is held under lease, expiring in September, 1865. Any further particulars may be had on application to JOHN PARRY JONES, Esq., solicitor, Denbigh; to Messrs. WALKER, SMITH, and WALKER, solicitors, Chester; or Mr. ORMISTON, Wigfair, St. Asaph.

N.B.—Falling a sale of the property as a whole, the leases of the colliery and the oil works will be sold separately, if thought desirable.

J. H. BUCKLEY, Chief Clerk. CHESTER AND URQUHART, Staplehurst (Agents for Walker, Smith, and Walker, Chester).

Solicitors for John Ormiston, the Official Liquidator.

TREVENEN AND TREMENHEERE MINES, WENDRON.

TUESDAY, JUNE 23d, 1868.

MR. JOHN BURGESS is instructed TO SELL all the following—

MACHINERY.

On the above date and Mines, viz.:— 50 in. cylinder ENGINE, 2 BOILERS (20 tons); 139 7, 8, 9, and 11 in. pumps, 9 ft. long, with bottoms to match; balance bob; wood rods of best quality; strapping plates; bolts to match; also a large quantity of timber.

Full particulars next week, and circulars on application.

Any part can be had by private contract before the day of sale, on application to the AUCTIONEER, Barncose, Redruth, Cornwall.

Refreshments as usual.

All but the Engine without Reserve.

Dated Barncose, Redruth, June 10th, 1868.

THE GARNETT AND MOSELEY GOLD MINES, IN THE STATE OF VIRGINIA.

TO BE SOLD BY AUCTION, BY ORDER OF THE LIQUIDATORS.

MR. EILORT is instructed to SELL the above MINES, BY AUCTION, on Tuesday, the 4th day of August, 1868, at the Auction Mart, in the City of London, at Twelve o'clock precisely.

THE MINES are situate in the COUNTY OF BUCKINGHAM, IN THE STATE OF VIRGINIA, upon property consisting of about 1290 acres of land, and are supposed to contain an unlimited supply of gold ore.

Reports of the mine may be seen, and particulars and conditions of sale, when ready, may be obtained on application to Messrs. WOODROOFE and PLASKITT, 1, New-square, Lincoln's-Inn, London; or to Mr. EILORT, 40, Chancery-lane, London. In New York, further information may be obtained on application to Messrs. DEHON, CLARK, and BRIDGES.

THE LOZANA PRIMERA LEAD-SMELTING AND DESILVERISING WORKS, With large Coke and Ore Yards adjoining.

SITUATE AT CARTHAGENA, IN SPAIN.

THESE IMPORTANT WORKS will be submitted FOR SALE, by VOLUNTARY AUCTION, before the Notary, DON BERNARDINO

ALCARAZ, of Carthagena, on the 30th June, 1868, at Twelve o'clock at noon.

The WORKS are situated in the suburb of Santa Lucia, on the Bay of Carthagena, and cover an area of about 45,000 square metres. They comprise a

SMELTING HOUSE, with condensing chamber and flue; a DESILVERISING HOUSE, with four sets of Pattinson's pots; LABORATORIES; CUPOLA

HOUSE; CALCINING FURNACES, FORGE, STEAM ENGINE and BOILERS, WORKMEN'S COTTAGES, porter's lodge, court-yards, and land adjoining.

Plans of the works can be seen, and further particulars of the property and conditions of sale obtained, on application to Messrs. BELL and Co., Calle de la Reyna, 8, sup. Madrid; Mr. WM. HENDERSON, Calle de Pallas, Carthagena; and Messrs. HARDING, WHITNEY, GIBBONS, and Co., 8, Old Jewry, London.

BARNSELY.

VALUABLE COLLIERIES FOR SALE.

PRELIMINARY ANNOUNCEMENT.

TO BE SOLD, BY PUBLIC AUCTION, towards the end of the month of July next, unless previously disposed of by private contract, when due notice will be given—

LOT 1.—All that VALUABLE COLLIERY, with the ENGINES and PLANT, called the

GAWBER HALL COLLIERY, otherwise WILLOW BANK,

and situate on the Barnsley Branch of the Lancashire and Yorkshire Railway and the Barnsley Canal, and distant from the town of Barnsley one mile.

LOT 2.—All that other VALUABLE COLLIERY, with the ENGINES and PLANT, situate at Mapplewell, near Barnsley, and upon the said Branch Railway, and called the

NORTH GAWBER COLLIERY.

The well-known Barnsley thick bed of coal is being worked by the above-mentioned pits, which are in first-rate working condition.

Further detailed particulars of the sale will be issued hereafter, and all information may be obtained on application being made to Mr. G. ARMSTRONG, solicitor, Newcastle-upon-Tyne; or to Mr. W. H. PEACOCK, solicitor, Barnsley. Barnsley, 27th April, 1868.

TO BE DISPOSED OF, a going SLATE and SLAB QUARRY, realising profit, situate at FESTINIOG, covering TWO HUNDRED AND TWELVE ACRES, Crown royalty.

For particulars, apply to T. DODD, Esq., No. 5, Moore-chambers, Moorfields, Liverpool.

COAL MINES TO BE LET.

TO BE LET, the MINES under the Township of TORKINGTON, consisting of all the well-known SEAMS of COAL—viz.:

THE CANNEL SEAM.
THE BIG MINE SEAM.
THE TWO FEET SEAM.
THE FOUR FEET SEAM.
THE FIVE FEET SEAM.
THE SILVER MINE SEAM.
THE WATERLOO SEAM.
THE NEW MINE SEAM.
THE WOOD MINE, OR RED ACRE SEAM.

The WHOLE of the MINES under the TOWNSHIP are TO BE LET on reasonable terms, consisting of about SEVEN HUNDRED AND EIGHTY-TWO ACRES, exclusive of waste lands and roads.

There are several pits (filled up) on the estate, from which but a small portion of the mines have been worked out, upwards of a hundred years ago.

On adjoining lands a colliery is now at work, and has been for many years. The mine and minimum rents will be fixed low, and to an enterprising party will be found a good investment.

The Macclesfield and Birmingham Railway passes through the township, very conveniently for colliery purposes. There are good roads through the township.

A good land sale may be fully anticipated—in fact, everything seems to be well arranged for opening out a good and extensive colliery.

This estate is conveniently situated within two miles of Stockport, on a good road.

For further particulars, and to treat for the same, apply to Mr. W. S. COPE, Mining Engineer, Port Vale, Longport, Staffordshire; GEORGE COLLINS, Esq., Knutsford, Cheshire; A. HATHAWAY, Esq., No. 21, Bedford-row, London; or NIVEN RALSTON, Esq., Park Hill House, Chartley, near Stafford.

TO CAPITALISTS.—THE ELY VALLEY.

TO BE LET,—All those SEAMS of highly bituminous COAL and LEAD MINE, lying under the several farms of COEDYLAY, TYNCOED, TYLCHAUD, TONTRATHW, GELYSBEREN, and LLANILID, containing together FIVE HUNDRED AND EIGHTY-SEVEN ACRES, in the above Valley, the property of COLLEWYN COZENS, Esq.

The estate is bounded by the River Ely and its tributaries, and the Ely Valley line of railway runs through it.

Further particulars may be obtained on application to Mr. WM. COZENS, or Mr. WM. DAVIES, Solicitors, Haverfordwest.

NICHOLLS, MATHEWS, AND CO., ENGINEERS, REDFORD IRONWORKS, TAVISTOCK.

MANUFACTURERS OF STEAM ENGINES OF EVERY DESCRIPTION, made on the BEST and NEWEST PRINCIPLES. We beg more especially to call the attention of the public to the MANUFACTURE of our BOILERS, which have been tested by most of our leading engineers. PUMP WORK CASTINGS OF EVERY DESCRIPTION, both of brass and iron. HAMMERED IRON and HEAVY SHAFTS OF ANY SIZE. CHAINS made of the best iron, and warranted. MINERS' TOOLS and RAILWAY WORK OF EVERY DESCRIPTION.

ALL ORDERS FOR ABROAD RECEIVE THEIR BEST ATTENTION. NICHOLLS, MATHEWS, and Co. have had 20 years' experience in supplying machinery to foreign mines, and selecting experienced workmen to erect the same, where required.

Messrs. NICHOLLS, MATHEWS, and Co. have always a LARGE STOCK of SECOND-HAND MINE MATERIALS in stock, and at moderate prices.

WILLIAMS'S PERRAN FOUNDRY COMPANY, PERRANARWORTH, CORNWALL.

MANUFACTURERS OF STEAM PUMPING and EVERY OTHER KIND of ENGINES, together with BOILERS, PUMP CASTINGS, and MINING TOOLS of every description, of the very best quality. Estimates given for the supply of any amount of machinery.

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OLDBURY WORKS, NEAR BIRMINGHAM. MANUFACTURERS OF RAILWAY CARRIAGES and WAGONS, and EVERY DESCRIPTION OF IRONWORK.

Passenger carriages and wagons built, either for cash or for payment over a period of years.

RAILWAY WAGONS FOR HIRE. CHIEF OFFICES, —OLDBURY WORKS, NEAR BIRMINGHAM.

LONDON OFFICES, —6, STOREY'S GATE, GREAT GEORGE STREET, WESTMINSTER.

THE BIRMINGHAM WAGON COMPANY (LIMITED) MANUFACTURE RAILWAY WAGONS OF EVERY DESCRIPTION, for HIRE and SALE, by immediate or deferred payments. They have also wagons for hire capable of carrying 6, 8, and 10 tons, part of which are constructed specially for shipping purposes. Wagons in working order maintained by contract.

EDMUND FOWLER, Sec. WAGON WORKS.—SMETHWICK, BIRMINGHAM.

Loans received on Debenture: particulars on application. London Agent.—Mr. E. B. SAVILE, 67, Victoria-street, Westminster, S.W.

STAFFORDSHIRE WHEEL AND AXLE COMPANY (LIMITED AND REDUCED).

MANUFACTURERS OF RAILWAY CARRIAGE, WAGON, and CONTRACTORS' WHEELS and AXLES, and other IRONWORK used in the CONSTRUCTION OF RAILWAY ROLLING STOCK.

OFFICES AND WORKS, HEATH STREET SOUTH, SPRING HILL, BIRMINGHAM.

LONDON OFFICE, —118, CANNON STREET, E.C.

COAL CUTTING MACHINERY.—The WEST ARDSLEY COMPANY having, by recently patented improvements, perfected their coal cutting machinery, worked by compressed air, are NOW READY TO MAKE CONTRACTS for the CONSTRUCTION and USE of their MACHINES.

The results of twelve months' experience in the working of these machines, by the West Ardsley Company, have proved most satisfactory, their use being found to CHEAPEN the COST and IMPROVE the average SIZE of the COAL, to LIGHTEN the LABOUR, and also to MODIFY the SANITARY CONDITION of the MINE.

All communications to be made to Messrs. FIRTH, DONISTHORPE, and BOWER, No. 8, Britannia-street, Leeds.

NOTICE.—The WEST ARDSLEY COMPANY, having reason to believe that their patents are being infringed upon, hereby give notice that they will TAKE LEGAL PROCEEDINGS AGAINST ALL PARTIES who may MAKE FOR SALE, or USE ANY MACHINERY in the construction of which any such INFRINGEMENT is MADE.

ASSAY OFFICE AND LABORATORY, No. 2, CROWN CHAMBERS, CROWN COURT, THREADNEEDLE STREET.

CONDUCTED BY W. T. RICKARD, F.C.S., &c. (Late MITCHELL and RICKARD).

Assays and analyses of every description of mineral and other substances manures, &c.

Gentlemen going abroad for mining purposes instructed in assaying, and the most improved methods of reducing gold, silver, and other metals.

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ARTESIAN BORING.

IMPROVEMENTS IN

TOOLS FOR BORING FOR WATER, COAL, AND MINERALS.

TILLEY'S PATENT.

These consist in DOING AWAY WITH THE MALE SCREW ON BORING RODS, and, by their patented arrangements, DIMINISHING THE RISK OF BREAKAGE, and RENDERING REPAIRS EASY. For prospectuses, apply to—

M. BEALE, 21, GRESHAM STREET, E.C.

Estimates given for obtaining water and boring for minerals.

PARIS EXHIBITION, 1867, GOLD MEDAL.

CLAYTON, SHUTTLEWORTH, AND CO.,

At the Great Triennial Trials of the ROYAL AGRICULTURAL SOCIETY OF ENGLAND, held at Bury St. Edmunds, July, 1867, received the following AWARDS:—

For Single Cylinder Portable Steam Engine,—THE FIRST PRIZE OF £25.

For Double Cylinder Portable Steam Engine,—THE FIRST PRIZE OF £25.

For Horizontal Cylinder Fixed Engine,—THE FIRST PRIZE OF £20.

For Double Blast Finishing Threshing Machine,—THE PRIZE OF £15.

Also, THE SOCIETY'S SILVER MEDAL for ADJUSTING BLOCKS for Machines.

The duty performed by all C. S., and Co.'s Engines on this occasion considerably exceeded that of any others. C. S., and Co. refer with pleasure to the fact that the duty of their "Commercial" or Single Valve Engine at Chester, so long ago as 1858, was not equalled by any "ordinary" Engine at Bury.

CLAYTON, SHUTTLEWORTH, & CO., LINCOLN;

And 78, LOMBARD STREET, LONDON.

RAILWAY WAGON WORKS, BARNSELY.
MESSRS. G. W. AND T. CRAIK
 ARE PREPARED TO
 SUPPLY COAL AND COKE WAGONS
 OF EVERY DESCRIPTION,
 Either for cash, or by deferred payments through wagon-leasing companies.
 WAGONS PROMPTLY REPAIRED.

LOCOMOTIVE TANK ENGINES FOR MINES AND COLLIERIES.

HENRY HUGHES AND CO.,
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 Have ALWAYS in PROGRESS, and can SUPPLY at short notice,
TANK ENGINES
 To suit any gauge of railway and gradients from 1 in 16.

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MANUFACTURERS OF RAILWAY WAGONS, WHEELS
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ROBERTS'S SMOKELESS FUEL
 CONTAINS NO COAL, GIVES GREATER HEAT, AND ENDURES LONGER
 THAN ANY SOLID COMBUSTIBLE HITHERTO USED.
 Free from waste, being moulded in sizes suitable for burning.
 Apply to—
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 CRANMER ROAD, NORTH BRITTON, LONDON.

SCHWEPPE'S MALVERN SELTZER,
 PREPARED FROM THE MALVERN WATER, SO LONG CELEBRATED
 FOR ITS PURITY.
 Every bottle is protected by a label having name and trade mark.
 Manufactories at London, Liverpool, Derby, Bristol, Glasgow, Malvern.

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 ROSIN DISTILLERS, GREASE AND VARNISH MANUFACTURERS,
 HOLT TOWN OIL WORKS, MANCHESTER,
 MANUFACTURERS OF VEGETABLE OILS, &c.

ANTI-FRICTION GREASE, 10s. to 14s. per cwt.
 Wire rope ditto, free from acid, 15s. per cwt. Liquid ditto (between thick and thin), for trams, &c., 8s. to 12s. per cwt.
 SKIP, HUTCH, CORVE, and WAGON OILS, from 8s. to 12s. per cwt.
 TORCH OIL, 1s. to 1s. 6d. per gallon.
 COPPER-SPOUTED QUART LAMPS, 4s.; TORCH WICK for ditto, 6d. per lb.
 PATENT ANTI-CORROSIVE BLACK VARNISH.
 "Paint Substitute for Wood or Iron," ready for use, 1s. to 2s. 6d. per gallon.
 We shall be glad to furnish a detailed price-list on application.
 Orders by post receive prompt attention.

TO THE PROPRIETORS OF FIRE BRICK, STONEWARE PIPE, AND TILE
 WORKS; ALSO, OF ARTIFICIAL MANURE, PATENT
 FUEL AND SUGAR WORKS, &c., &c.

CARR'S PATENT DISINTEGRATOR,
 For REDUCING to a FINE GRANULAR POWDER various UNFIBROUS
 MATERIALS (whether HARD or SOFT) at the rate of from TEN to THIRTY
 TONS AN HOUR, according to the size and strength of the one used, and the
 amount of power available to drive it.

This unique and efficient mill, unparalleled for novelty, wholesale execution,
 and dispatch, is rapidly superseding throughout the United Kingdom and
 abroad all other pulverising machines at the above-named and other works, at
 an immense improvement to their manufacture in quality and quantity, and at
 a saving in steam-power and labour, in some individual cases amounting to
 several hundreds of pounds a-year.

An illustrated pamphlet, fully describing the disintegrator, with woodcuts and
 prices (which range from £50 to £140), together with the names and addresses
 of some two hundred of its purchasers (some of whom have taken two, three,
 or even four of them), will be forwarded at any time, free of charge, on appli-
 cation to the patentee, as below, who will also send, by sample post where spe-
 cially required, samples of powdered materials in the precise state as they were
 pulverised by various disintegrators, consisting of fire-clays, gault, shale,
 heavy burnt stoneware, coal, pitch, &c., and likewise the names of some of the
 purchasers who have kindly consented to show theirs in operation to bona fide
 enquirers.
THOMAS CARR, PATENTEE, MONTPELIER, BRISTOL.

WILTON'S MATHEMATICAL INSTRUMENT ESTABLISHMENT REMOVED
 from St. Day to A. JEFFERY'S, CAMBORNE.

W. H. WILTON begs to thank his friends for their very liberal support for
 many years, and informs them that he has now declined business in England
 in favour solely of Mr. A. JEFFERY, MATHEMATICAL INSTRUMENT
 MAKER, CAMBORNE, whom he considers (having been an assistant to his
 father for several years) is in every way capable of creditably maintaining the
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A. JEFFERY
 Respectfully begs to inform Mine Managers, Surveyors, Engineers, &c., that
 having purchased Mr. Wilton's business, and the very valuable acquisitions and
 appliances belonging thereto, he has enlarged his Mathematical Instrument
 Manufactory, and is prepared to supply THEODOLITES, DISSALS, POCKET DIALS,
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 MENTS, MEASURING CHAINS AND TAPES, ASSAYERS' SCALES AND WEIGHTS, EN-
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 VEYING, MEASURING, MAPPING, &c.
 Repairing in all its branches promptly attended to.

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 (ESTABLISHED 1770.)
 MANUFACTURERS OF EVERY DESCRIPTION OF
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PATENT FLAT AND ROUND WIRE ROPES,
 From the very best quality of charcoal iron and steel wire.

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**SHIPS' RIGGING, SIGNAL AND FENCING STRAND, LIGHTNING CON-
 DUCTORS, STEAM PLOUGH ROPES** (made from Webster and Horsfall's
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 TARPULING, OIL SHEETS, BRATTICE CLOTHS, &c.

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CARLISLE BISCUIT COMPANY.—WHOLESALE AND
EXPORT BISCUIT MANUFACTURERS, CARLISLE, & 36, CITY ROAD,
LONDON. For twenty years their biscuits have maintained a high reputation.
 For export they are specially prepared, so as to keep in any climate. To wholesale
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MEAT BISCUITS FOR DOGS.
MEAT BISCUIT FOR DOGS, made by the CARLISLE BISCUIT
COMPANY, is undoubtedly the best and cheapest food for dogs that has
 ever been introduced. It is equally adapted for sporting dogs, yard dogs, or for
 pets. It requires no cooking, and, without any other food, keeps dogs in the
 highest condition. Many of the prize-taking dogs at the last Birmingham show
 were fed, from puppies, on this biscuit. Price 20s. per cwt. at Carlisle; or at
 their depot, 36, City-road, London, 22s. per cwt. Post-office orders payable to
 WILLIAM SLATER, Carlisle. Sold by corn chandlers everywhere. Book of tes-
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PARR'S LIFE PILLS clear from the body all hurtful impurities,
 improve the digestive powers, speedily cure all liver complaints, bilious
 ailments, skin eruptions, loss of spirits, headache, costiveness, gout, lum-
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 LIFEBAL MEDICINE, recommend it as the most useful remedy for the restora-
 tion of sound bodily health and mental vigour.
 May be obtained of any medicine vendor in boxes, 1s. 1/6d., 2s. 6d., and in
 family packets, 11s. each. Directions with each box.

TO MINING COMPANIES, MECHANICAL ENGINEERS, MERCHANTS, SHIPPING AGENTS, &c.

THE TITANIC STEEL AND IRON COMPANY,

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MANUFACTURE A VERY SUPERIOR QUALITY OF STEEL FOR

BORERS, ROCK-DRILLING, AND MINING PURPOSES

GENERALLY; ALSO FOR

LATHE TOOLS, TAPS, DIES, DRILLS, PUNCHES, CHISELS, SHEAR BLADES, SNAPS, AND BOILER
 MAKERS' AND SMITHS' TOOLS.

SOLID CAST-STEEL HAMMERS

CAREFULLY MADE OF BEST CAST-STEEL TO ANY PATTERN.

The Company's STEEL is manufactured according to the processes and under the supervision of

MR. ROBERT MUSHET.

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COLEFORD, FOREST OF DEAN, GLOUCESTERSHIRE.

HEATON'S PATENT.

THE LANGLEY MILL STEEL & IRONWORKS COMPANY

(LIMITED),

LANGLEY MILL, NEAR NOTTINGHAM,

Are now making Cast-Steel suitable for Tools, Taps, Dies, Chisels, &c., &c., Shear Steel, and Iron of a very
 superior quality, by their direct process, under the superintendence of the Patentee.

The range of quality which this process secures renders the Steel and Iron suitable for almost every purpose to which these metals
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ORMEROD, GRIERSON, & CO.,

ST. GEORGE'S IRONWORKS, HULME, MANCHESTER,

Have the largest assortment in the Trade of PATTERNS,

SPUR WHEELS, BEVEL WHEELS, MITRE WHEELS.

ALSO

FLY WHEELS, DRIVING PULLEYS, AND DRUMS

CAN BE SUPPLIED BORED AND TURNED, IF REQUIRED.

CATALOGUES ON APPLICATION.

ALSO, MANUFACTURERS OF BLAST ENGINES, COLLIERY AND ALL OTHER DESCRIPTIONS OF STATIONARY
 ENGINES AND BOILERS, MILL GEARING, &c.



PATENT FLEXIBLE TUBING,

AND BRATTICE CLOTH FOR MINES

MANUFACTURED BY

ELLIS LEVER,

WEST GORTON WORKS, MANCHESTER.

ALEXANDER WILSON AND CO.,

ENGINEERS,

VAUXHALL IRONWORKS, WANDSWORTH ROAD,

LONDON, S.W.,

NEAR NINE ELMS PIER AND RAILWAY STATION,

Manufacturers of Single and Twin Screw Engines for Small Tugs, Lighters, and Yachts; Steam,
 Hydraulic, and Hand Cranes, of every class; Steam Engines and Boilers, Improved Donkey Pumps
 and Injectors for feeding Boilers and other purposes, Safety Valves, Stop Valves, Blow-off Valves,
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SPECIAL ATTENTION IS CALLED TO THEIR

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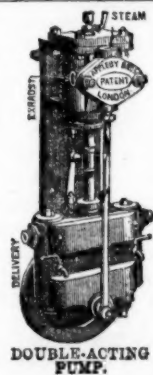
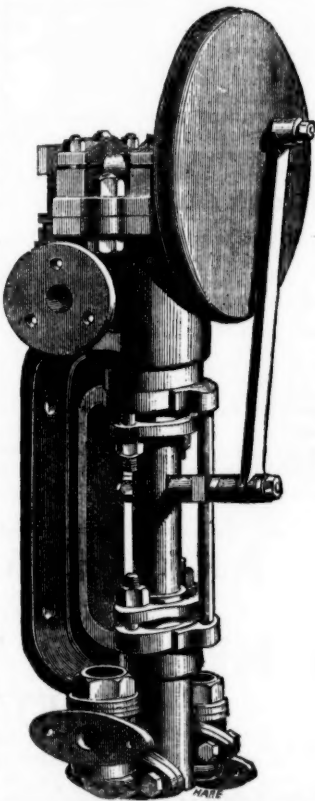
Which are now universally used by all the Leading Firms of Engineers for Land and Marine
 Purposes in all parts of the world. For Excellence of Workmanship and Lowness of Price they
 are simply unrivalled, as they are produced by Special Tools and Machinery, combined with
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REDUCED PRICE LIST.

Those marked * are double-action.

Size.	Diameter.	Stroke.	Galls. thrown per hour.	H.P. of boiler supplied.	Price.
4	1 1/4	2 1/2	150	10	£ 6 10 0
5	1 1/2	3	230	15	8 10 0
6	1 3/4	4	460	30	11 0 0
7	2	4	690	40	13 0 0
*8	2 1/4	4	920	50	15 10 0
9	2 1/2	6	1380	75	17 0 0
*10	2 3/4	6	1840	120	19 0 0
11	3	6	2300	150	22 0 0
*12	3 1/4	6	2760	200	25 0 0
14	3 1/2	9	3780	250	28 0 0
*16	4	12	5040	300	45 0 0

A Large Stock always on Hand.



PARIS EXHIBITION, } Silver Medal for STEAM CRANES.
 1867—AWARDS, } Bronze Medal for DONKEY FEED PUMPS.

APPLEBY BROTHERS,

EMERSON STREET, SOUTHWARK,

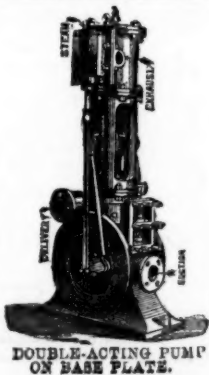
LONDON, S.E.,

Engineers and Patentees of STEAM CRANES, DONKEY PUMPS, &c.

PATENT DONKEY PUMPS.

Nos.	1	2	3	4	5	6	7	8	9
Diam. of ram ..	1 1/4 in.	2 in.	2 1/4 in.	2 1/2 in.	2 3/4 in.	3 in.	3 1/4 in.	3 1/2 in.	4 in.
*Gall. per hour ..	230	400	680	850	1200	1600	2100	2500	3500
Approx. H.P.	15	25	40	60	80	95	130	150	230
Single-acting price	£10 5s.	£12 10s.	£15	£18	£20	£24	£28	£33	£38
Double-acting do.	11 10s.	14 0s.	17	20	24	28	33	38	45
Double-acting pump on base plate ..	11 10s.	14 0s.	17	20	24	28	33	38	45

* Calculated at 900 strokes per minute.

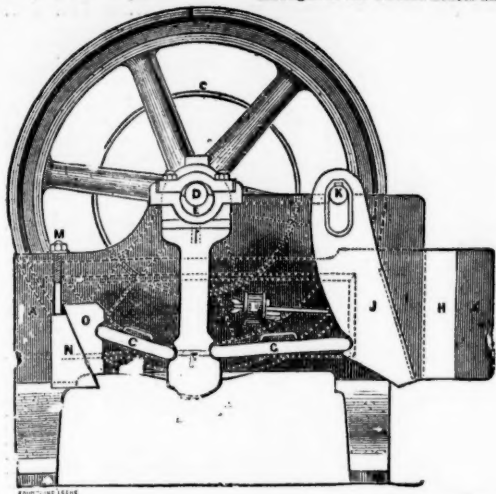


IMMENSE SAVING OF LABOUR.
TO MINERS, IRONMASTERS, MANUFACTURING CHEMISTS, RAILWAY COMPANIES, EMERY AND FLINT GRINDERS, MACADAM ROAD MAKERS, &c., &c.

BLAKE'S PATENT STONE BREAKER,

OR ORE CRUSHING MACHINE,

FOR REDUCING TO SMALL FRAGMENTS ROCKS, ORES, AND MINERALS OF EVERY KIND.
It is rapidly making its way to all parts of the globe, being now in profitable use in California, Washoe, Lake Superior, Australia, Cuba, Chili, Brazil, as well as throughout the United States and England. Read extracts of testimonials:—



The Parys Mines Company, Parys Mines, near Bangor, June 6.—We have had one of your stone breakers in use during the last twelve months, and Capital¹⁰ Moreon reports most favourably as to its capabilities of crushing the materials to the required size, and its great economy in doing away with manual labour.
For the Parys Mining Company, JAMES WILLIAMS.

H. R. Marsden, Esq.

Eaton Emery Works, Manchester.—We have used Blake's patent stone breaker made by you, for the last 12 months, crushing emery, &c., and it has given every satisfaction. Some time after starting the machine a piece of the moveable jaw about 20 lbs. weight, chilled cast-iron, broke off, and was crushed in the jaws of the machine to the size fixed for crushing the emery.
H. R. Marsden, Esq. THOS. GOLDSWORTHY & SONS.

Alkali Works, near Wednesbury.—I at first thought the outlay too much for so simple an article, but now think it money well spent.
WILLIAM HUNT.

Welsh Gold Mining Company, Dolgelly.—The stone breaker does its work admirably, crushing the hardest stones and quartz.
WM. DANIEL.

Our 15 by 7 in. machine has broken 4 tons of hard whinstone in 20 minutes, for fine road metal, free from dust.
Messrs. ORD and MADDISON,
Stone and Lime Merchants, Darlington.

Kirkless Hall, near Wigan.—Each of my machines breaks from 100 to 120 tons of limestone or ore per day (10 hours), at a saving of 4d. per ton.
JOHN LANCASTER.

Ovoca, Ireland.—My crusher does its work most satisfactorily. It will break 10 tons of the hardest copper ore stone per hour.
WM. G. ROBERTS.

General Frémont's Mines, California.—The 15 by 7 in. machine effects a saving of the labour of about 30 men, or \$75 per day. The high estimation in which we hold your invention is shown by the fact that Mr. Park has just ordered a third machine for this estate.
SILAS WILLIAMS.

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H. R. MARSDEN, SOHO FOUNDRY,
MEADOW LANE, LEEDS,
ONLY MAKER IN THE UNITED KINGDOM.

CAUTION!

BLAKE'S PATENT STONE BREAKER,

In Chancery.

BLAKE v. ARCHER, NOVEMBER 12, 1867.

His Honour the Vice-Chancellor WOOD having found a VERDICT in FAVOUR of the PLAINTIFFS in the above Cause, establishing the VALIDITY of BLAKE'S PATENT, and made a DECREE for an INJUNCTION to RESTRAIN the DEFENDANTS, Messrs. THOMAS ARCHER and SON, of Dunston Engine-Works, near Gateshead-on-Tyne, from INFRINGING such PATENT, and ordering them to pay to the Plaintiffs the costs of the Suit.

ALL PERSONS are hereby CAUTIONED against MANUFACTURING, SELLING, or USING any STONE BREAKERS similar to BLAKE'S, which have not been manufactured by the Plaintiffs. Application will forthwith be made to the Court of Chancery for INJUNCTIONS AGAINST ALL PERSONS who may be found INFRINGING BLAKE'S PATENT after this notice.

SOLE MAKER IN ENGLAND,

H. R. MARSDEN, SOHO FOUNDRY, MEADOW LANE, LEEDS.

PARIS EXHIBITION, 1867. SILVER MEDALS, CLASSES 40-51.

AWARDED THE ONLY FIRST-CLASS MEDAL FOR CRUCIBLES.

PATENT PLUMBAGO CRUCIBLE COMPANY,

SOLE MANUFACTURERS UNDER MORGAN'S PATENT.

BATTERSEA WORKS, LONDON, S.W.

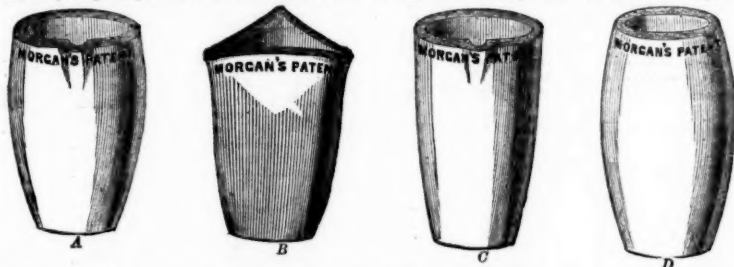
These Crucibles (MORGAN'S PATENT) were the only ones to which Prize Medals were awarded in London, 1862; Dublin 1865; New Zealand, 1865; and Oporto, 1865.

They have been in use for many years in the English, Colonial, French, and other Foreign Mints; the English, French, and other Arsenals; and have been adopted by most of the large Engineers, Founders, and Refiners at Home and Abroad.

The capabilities which have now for more than twelve years distinguished these Crucibles are:—

Their quality is uniform. They withstand the greatest heat without danger. Their average durability for Gold, Silver, Copper, and other ordinary metals is forty to fifty pourings, in some cases reaching one hundred. They never crack, and heat more rapidly than any other kind. One annealing only is required. Change of temperature has no effect. They can when hot from the furnace be dipped in cold water with safety. The saving of labour and metal is very great. (Messrs. BARNES and BOOTH, Birmingham, testify to the saving of 1 ton 2 qrs. 21 lbs. 4 ozs. of metal in melting 73 tons 6 cwts. of brass.) In Steel Melting the saving of fuel has been demonstrated to amount to a ton and a half to every ton of steel fused. For Zinc they last longer than iron pots, and save the great loss which arises from mixture with iron. Those for Malleable Cast-iron show an average working of seven days, doing each day nearly double the work of any other crucible.

As these crucibles last much longer than any others, it follows that the saving of metal must be great, because to each worn crucible a quantity of metal adheres. In fact, comparing these with other crucibles, the saving of metal and fuel alone is more than equivalent to their cost.



A are made in sizes varying from 2 ozs. to any required capacity, and are marked by the quantity of kilogrammes they will contain; thus No. 100 will contain 100 kilogrammes.
B differ in shape, but correspond in all other respects with A, and are similarly marked.
C are marked in English pounds—thus, a crucible marked 60 will contain 60 lbs.
D are made expressly for steel in various sizes.

MORGAN'S PATENT CRUCIBLES

Can be made any shape or size required, and are stamped as below:—



Having secured new Patents
for our Manufacture, and to
prevent fraudulent imitations,

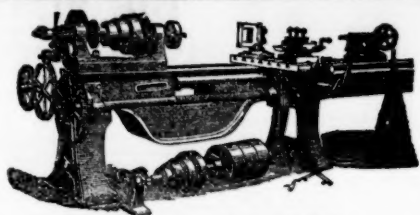
we call particular attention
to our Trade Mark, as here
shown.

"It follows, with the persistence of a law, that originators should be beset by imitators, just as in the natural world the finest organic forms are most liable to parasitical growth."—Miss METEYARD'S *Life of Josiah Wedgwood, the Potter*.

In all instances please specify "MORGAN'S PATENT," and address to—

BATTERSEA WORKS, LONDON, S.W.

Complete Illustrated List forwarded on application.

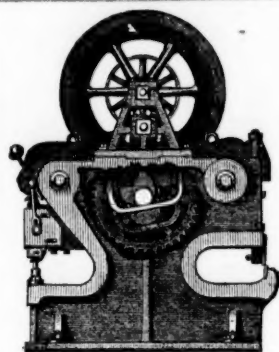


STEAM ENGINES,
ENGINEERS' TOOLS, BUILDERS' CONTRACTORS'
COLLIERY PLANT, AND MACHINERY,
Of every description, new and secondhand,
FOR SALE OR HIRE.

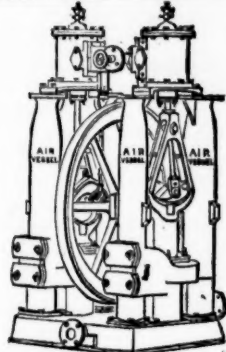
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ENGINEERING, MILL VALUER, AUCTIONEER, &c.,
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PATENT DOUBLE CAM LEVER
PUNCHING AND SHEARING
MACHINE,
1 1/4 x 1 1/4 in. x 24 in.—8 tons, £185.
WORKS,
EGERTON STREET, HULME,
MANCHESTER.



JOHN CAMERON'S
STEAM PUMPS,
From 2 to 12 in. diameter,
SINGLE AND DOUBLE-ACTING.
WORKS,
EGERTON STREET, HULME,
MANCHESTER.

BICKFORD'S PATENT SAFETY FUSE
Obtained the PRIZE MEDALS at the "ROYAL EXHIBITION" of 1851; at the "INTERNATIONAL EXHIBITION" of 1862, in London; at the "IMPERIAL EXPOSITION" held in Paris, in 1855; at the "INTERNATIONAL EXHIBITION," in Dublin, 1865; and at the "UNIVERSAL EXPOSITION," in Paris, 1867.



BICKFORD, SMITH, AND CO.,
of TUCKINGMILL, CORNWALL, MANUFACTURERS OF PATENT SAFETY-FUSE, having been informed that the name of their firm has been attached to fuse not of their manufacture, beg to call the attention of the trade and public to the following announcement:—
EVERY COIL OF FUSE MANUFACTURED by them has TWO SEPARATE THREADS PASSING THROUGH THE COLUMN OF GUNPOWDER, and BICKFORD, SMITH, AND CO. CLAIM SUCH TWO SEPARATE THREADS as THEIR TRADE MARK.

THOMAS TURTON AND SONS,

MANUFACTURERS OF
CAST STEEL for PUNCHES, TAPS, and DIES,
TURNING TOOLS, CHISELS, &c.
CAST STEEL PISTON RODS, CRANK PINS, CONNECTING RODS, STRAIGHT and CRANK AXLES, SHAFTS and
FORGINGS of EVERY DESCRIPTION.



DOUBLE SHEAR STEEL
BLISTER STEEL,
SPRING STEEL,
GERMAN STEEL,
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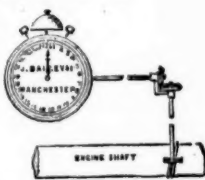
Locomotive Engine, Railway Carriage and Wagon Springs and Buffers.

SHEAF WORKS AND SPRING WORKS, SHEFFIELD.
LONDON WAREHOUSE, 35, QUEEN STREET, CANNON STREET, CITY, E.C.
Where the largest stock of steel, files, tools, &c., may be selected from.

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CHAPEL STREET, LIVERPOOL,
MANUFACTURERS OF FLAT and ROUND HEMP and IRON and STEEL WIRE ROPES for MINING, RAILWAY, and SHIPPING PURPOSES.
MANILLA ROPE of SUPERIOR QUALITY, FIFTY PER CENT. STRONGER and THIRTY PER CENT. CHEAPER than Russian hemp rope.
WIRE ROPE of FIRST QUALITY WIRE, and the HIGHEST STANDARD of STRENGTH.

THE NEWCASTLE CHRONICLE AND NORTHERN COUNTIES ADVERTISER. (ESTABLISHED 1764.)
Published every Saturday, price 2d., or quarterly 2s. 2d.
Offices, 42, Grey-street, Newcastle-upon-Tyne; 20, Howard-street, North Shields; 195, High-street, Sunderland.

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CURE YOURSELF BY THE PATENT SELF-ADJUSTING CURATIVE AND ELECTRIC BELT.—Sufferers from spermatorrhoea, nervous debility, painful dreams, &c., can now cure themselves by the only guaranteed remedy in Europe, protected by Her Majesty's great seal. Free for one stamp by H. JAMES, Esq., Percy House, Bedford-square, London.
N.B.—MEDICINE AND FEES SUPERSEDED.
Reference to the leading Physicians of the day.
A TEST GRATIS. SEND FOR DETAILS.

CONSULT DR. HAMMOND (of the LOCK HOSPITAL, &c.),
No. 11, Charlotte-street, Bedford-square, London, W.C., in all those ailments which tend to embitter and shorten life, and especially those termed PECULIAR and CONFIDENTIAL. At home, Nine to Two, and Three to Eight; Sundays, Ten to Twelve. The "Self-Curative Guide" post free, two stamps.
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LETTERS RECEIVE PROMPT ATTENTION.

NERVOUS DEBILITY: ITS CAUSE AND CURE.—Before seeking aid from the so-called remedies without medicine, read this valuable work on the Treatment and Cure of Nervous and Physical Debility, Loss of Appetite, Pains in the Back, Spermatorrhoea, &c., with Plain Directions for Perfect Restoration to Health. Sent post free to any address, on receipt of two postage stamps. Letters of enquiry or details of case promptly answered.
Address, Dr. SMITH, 8, Burton-crescent, London, W.C.

Just published, post free for one stamp.
WONDERFUL MEDICAL DISCOVERY,
showing the true causes of Nervous, Mental, and Physical Debility, lowness of Spirits, Indigestion, Want of Energy, Premature Decline, with plain directions for perfect restoration to health and vigour in a few days.
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Member of the College of Physicians and Surgeons, on the SELF-CURE of NERVOUS and PHYSICAL DEBILITY, Lowness of Spirits, Loss of Appetite, Timidity, Incapacity for Exertion, &c., with means for perfect restoration. Free for 2 stamps by Dr. WATSON, No. 1, South-crescent, Bedford-square, London. Consultations daily from 11 till 3, and 6 till 8; Sundays, 10 till 1.

WEST END STOCK, SHARE, AND INVESTMENT AGENCY.

INVESTMENTS in PUBLIC SECURITIES effected on the most advantageous terms.
LOANS GRANTED on marketable stocks and shares.
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This agency affords West End operators facilities hitherto to be had only in the City.

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This Agency, having reliable correspondents in all the great mining districts, gives particular attention to this class of security, and is in a position to advise what to buy, sell, or avoid.

FOR SALE, at net prices, and FREE OF COMMISSION:—
100 W. Wh. Kitty, 13s. 6d. 40 North Chiverton. 25 Prince of Wales, 43s.
20 Chiverton, £1 18s. 9d. 150 West Drake Walls. 50 Princess Wales, 6s. 6d.
15 Clifford, £4 18s. 40 Chontales, £1 16s. 3d. 100 Rossa Grande, £3 1/2 pm.
20 E. Rosewarne, 5s. 3d. 20 Kitty (St. Ag.), £2 18s. 25 Don Pedro, £2 3/4 prem.
2 East Basset, £3 3/4. 3 Em. Henrietta, £3 3/4. 10 West Caradon, £4 1/4.

40 Gt. South Tolgus, 7s. 50 East Carn Brea, 11s. 2 Mary Ann, £2 3/4.
30 North Down, 26s. 90 Drake Walls, 6s. 9d. 55 New Lovell.
60 No. Trekerby, 17s. 9d. 60 Gt. No. Downs, £3 17
25 Chiv. Moor, £2 11s. 3d. 100 Frontino, 16s. 100 New Clifford.
2 W. Chiverton, £2 3/4. 55 Gt. South Chiverton. 200 Tamar Valley.
25 West Gt. Work, £2 3/4. 100 Lovell Consols.

BUYERS of Montgomeryshire Lead and Barytes Company's shares at 10s. premium.

* Holders of shares may use this advertisement as a medium for the disposal of the same, "free of charge," by sending full particulars to this office not later than Thursday in each week.

References exchanged.

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The West-End Stock, Share, and Investment Agency, is established for the purpose of affording CAPITALISTS, SPECULATORS, and INVESTORS generally in Stock and Shares, facilities for the transaction of business hitherto to be had only in the City.

This Agency undertakes the purchase and sale of CONSOLS, FOREIGN BONDS, RAILWAYS, BANKS, INSURANCE, GAS, WATER, MINING, and FINANCIAL SHARES, and gives particular attention to Shares not dealt in on the Stock Markets, and which being matters of negotiation require special care.

EXCHANGES of Shares negotiated on equitable terms.

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Five per cent. per annum allowed on all monies deposited (withdrawable at one month's notice).

The Agency is always prepared to deal at close prices for cash, or the regularly fortnightly STOCK EXCHANGE settlements.

In all cases of first transactions (unless the orders are accompanied by BAKER'S REFERENCE) a cash margin of from 1 to 25 per cent. on the money value will be required, according to the speculative character or otherwise of the Stocks or Shares dealt in. For instance, 1 per cent. would only be required on Consols, all other Stocks and Shares in proportion to the risk.

SHAREHOLDERS residing abroad or not desiring their names to appear on the books of companies, may make arrangements with this AGENCY for avoiding the annoyance often arising from the necessary publicity given (in accordance with the Act of Parliament) to names of all shareholders in Joint Stock Companies.

Influenced by the fact that the mineral produce of GREAT BRITAIN exceeds the annual value of £40,000,000, FORTY MILLIONS sterling (see Government returns), this Agency has made arrangements for having complete information concerning BRITISH and FOREIGN MINES, and has in its employ competent and trustworthy Agents in all the great mining districts, and is in a position to give valuable advice on this subject.

No class of PUBLIC SECURITIES require more judgment and caution than Mining Shares, at the same time none have been more remunerative to the INTELLIGENT INVESTOR.

Holders of this class of security, or intending purchasers of shares, would do well to have mining properties inspected through this Agency before operating. The daily open and closing prices of the Stock Markets can be seen at this office, and a daily closing price list will be sent free on application, "postage only charged." Stocks and Shares not dealt in on the STOCK EXCHANGE or open markets can be inserted in our advertisement free of charge.

For facilitating the exchange of Shares, a REGISTER (which is open free to the public for inspection) is kept at the office, and all persons desirous to effect an exchange should forward particulars to the secretary.

Orders by telegram promptly attended to.

Commissions on purchase or sale of Stocks and Shares from 2s. 6d. per cent.

Office hours 10 till 4; Saturdays 10 till 2.

F. LEMMER, Secretary.

M. R. THOMAS THOMAS, ASSAYER, &c., COPPER ORE WHARVES, SWANSEA.

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Messrs. THOMAS THOMAS BONNER and Co. having been engaged in mining pursuits and the management of metalliferous mines for upwards of twenty years, their experience enables them to give their clients the soundest advice. They are always in a position to negotiate for the buying and selling of mineral properties in all parts of the world; and they also undertake the floating of companies for working such properties, if the bona fide prospectus, after careful investigation, meets their approval.

T. B. and Co. are also dealers in every kind of mining shares, and having an extensive connection are generally able to deal in shares difficult of sale in the open market, and invite transactions from holders of this kind of stock.

M. R. H. D. HOSKOLD, MINING ENGINEER, LAND AND MINERAL SURVEYOR, CINDERFORD, NEWHAM.

Gentlemen requiring reliable and correct information respecting any coal or Iron Mine Property in the Forest of Dean may obtain it on application. Surveys, Plans, Reports, and Valuations on the usual moderate terms.

NATIONAL PROVINCIAL BANK OF ENGLAND.—The directors of the National Provincial Bank of England hereby give notice that a HALF-YEARLY DIVIDEND, at the rate of EIGHT PER CENT. PER ANNUM, and a HALF-YEARLY BONUS OF SEVEN PER CENT. will be PAYABLE on the company's stock on and after the 10th day of July next, when the dividend and bonus warrants may be obtained at the company's office, No. 112, Bishopsgate-street (corner of Threadneedle-street), or at the different branches.

The Transfer-books will be closed on and after Saturday, the 13th inst., until the dividend and bonus become payable.

By order of the Court of Directors, R. ATKINSON, Agent and Manager.

Bishopsgate-street (corner of Threadneedle-street), London, E.C., June 9, 1868.

ST. JOHN DEL REY MINING COMPANY (LIMITED).—Notice is hereby given, that the ANNUAL ORDINARY GENERAL MEETING of this company will be HELD at the London Tavern, Bishopsgate-street Within, on WEDNESDAY, the 24th day of June next, at Two o'clock precisely.

To receive and adopt the directors' report of the company's proceedings since the last general meeting. JOHN HOCKIN, Managing Director.

8, Tokenhouse-yard, London, E.C., June 8, 1868.

The Transfer-books of the company will be closed from Thursday, the 11th, to Wednesday, the 24th June, both days inclusive.

GENERAL MINING ASSOCIATION.—Notice is hereby given, that the YEARLY GENERAL MEETING of the proprietors of this company will be HELD at the office, on THURSDAY, the 25th day of June, 1868, at One o'clock in the afternoon precisely, for the purpose of receiving and considering a report of the directors, and of transacting the ordinary business of the association. At this meeting Henry Boggs, Esq., Felix Ladbroke, Esq., and George Scovell, Esq., three of the present directors, and James Rennie, Esq., one of the auditors, will vacate their seats by rotation, and, being immediately eligible, are candidates for re-election.

The annual statement of accounts will be open to the inspection of the proprietors at the office for seven days prior to the day of meeting.

By order of the Board of Directors, J. B. FOORD, Secretary.

Office of the General Mining Association, 52, Old Broad-street, London, June 9, 1868.

CHONTALES GOLD AND SILVER MINING COMPANY (LIMITED).—Notice is hereby given, that an EXTRAORDINARY GENERAL MEETING of this company will be HELD at the London Tavern, Bishopsgate-street Within, in the City of London, on TUESDAY, the 16th day of June, 1868, at Twelve o'clock, and that resolutions will be submitted to such meeting, and proposed for adoption, authorising the directors to borrow on debentures of the company any sum not exceeding £30,000, with interest, and authorising the directors to charge the mines and property of the company with the payment of such debentures, and to provide for the repayment thereof out of profits, by lot or otherwise, or the conversion thereof into ordinary shares of the company, or for authorising the directors to raise the above-mentioned sum in such other manner as shall be determined by the meeting.

And notice is hereby given, that a special resolution (to be confirmed at a subsequent meeting) will be proposed at such meeting for altering the Articles of Association of the company, so as to enable the directors to create and issue debentures of the kind and with the privileges necessary for giving effect to the preceding proposed resolutions, and especially for authorising the directors to convert debentures of the company into shares.

By order, J. JAMESON TRURAN, Secretary.

185, Gresham House, London, May 27, 1868.

STEAM-BOILERS made by WILLIAM WILSON, LILYBANK BOILER WORKS, GLASGOW, on the most improved principles, for home and export. All boilers made of the best material and workmanship, proved and warranted tight under a high pressure, and delivered at any railway station or shipping port in the kingdom at moderate rates. Lithograph of boilers forwarded post-free on application.

THE MINING SHARE LIST.

BRITISH DIVIDEND MINES.

Shares.	Mines.	Paid.	Last Pr.	Business.	Total divs.	Per share.	Last paid.
1500	Alderley Edge, c, Cheshire*	10 0 0	—	—	9 11 8	0 4 0	April 1868
200	Botallack, t, c, St. Just	91 5 0	—	—	488 15 0	5 0 0	May 1868
4000	Brookwood, c, Buckfastleigh	1 11 0	—	—	0 10 0	0 2 6	April 1868
1000	Bronfloyd, t, Cardigan	12 0 0	—	—	9 9 0	0 6 0	May 1868
6400	Cashwell, t, Cumberland*	2 10 0	—	—	0 1 6	0 1 6	Aug. 1866
500	Creegafawce and Penkell, t	15 5 7	22	20 22	14 5 0	0 10 0	Jan. 1868
867	Cwm Erfin, t, Cardiganshire*	7 10 0	—	—	26 13 0	0 15 0	April 1868
128	Cwmystwith, t, Cardiganshire	60 0 0	—	—	381 10 0	2 0 0	Dec. 1867
280	Derwent Mines, s, t, Durham	300 0 0	—	—	174 10 0	5 0 0	June 1867
1024	Devon Gt. Consols, c, Tavistock†	1 0 0	455	440 450	1102 0 0	7 0 0	May 1868
656	Ding Dong, t, Gwulva†	49 14 6	—	—	0 10 0	0 10 0	Sept. 1867
358	Dolcoath, c, t, Camborne	128 17 6	—	—	848 10 0	4 0 0	June 1868
6144	East Caradon, c, St. Cleer†	2 14 6	3 3/4	3 3/4	14 11 6	0 2 0	July 1867
400	East Darren, t, Cardiganshire	32 0 0	—	—	158 10 0	2 0 0	May 1868
128	East Mary Ann, t, Menai	24 5 0	37 1/2	—	432 10 0	5 0 0	May 1868
1906	East Wheal Lovell, t, Wendron	3 9 0	8	7 1/2 8	4 1 6	0 10 0	May 1868
2800	Foxdale, t, Isle of Man*	25 0 0	—	—	71 0 0	0 10 0	Sept. 1867
5000	Frank Mills, t, Christow	3 18 6	—	—	3 5 6	0 5 0	Feb. 1866
3950	Gawton, c, Tavistock	6 10 6	—	—	0 3 0	0 3 0	Jan. 1868
15000	Great Laxey, t, Isle of Man*	4 0 0	17 1/2	16 1/2 17	8 5 0	0 10 0	Mar. 1868
5908	Great Wheal Vor, t, c, Helston†	40 0 0	16	15 16	12 15 0	0 7 6	Mar. 1868
1024	Hedonfoot, t, near Liskeard†	8 10 0	40	—	45 0 0	1 10 0	Feb. 1868
4000	Hingston Down, c, Calstock†	5 10 0	—	—	0 10 0	0 5 0	April 1868
165	Levant, c, t, St. Just	10 8 1	—	—	1093 0 0	2 0 0	May 1868
400	Lisburne, t, Cardiganshire	18 15 0	—	—	507 10 0	3 0 0	May 1868
3000	Mace-y-Safin, t, Flint*	20 0 0	27 1/2	—	3 15 0	0 15 0	April 1868
9000	Marke Valley, c, Caradon	4 10 6	6 3/4	6 1/4 6 3/4	4 8 6	0 4 0	April 1868
3000	Miner Boundary, t, Wrexham*	1 0 0	—	—	0 13 0	0 3 0	Mar. 1866
1800	Miner Mining Co., t, Wrexham*	25 0 0	170	—	233 13 0	5 0 0	May 1868
20000	Mining Co. of Ireland, c, t, cl.	7 0 0	—	19 19 1/4	—	0 5 7	Jan. 1867
4000	Mynydd Iron Ore*	5 0 0	—	—	0 8 6	0 2 0	Mar. 1868
2000	Parry Mines, c, Anglesey*	50 0 0	—	—	160 0 0	2 10 0	Mar. 1868
12800	Prince of Wales, t, Calstock	0 12 6	2 1/2	2 1/2 2 1/2	0 6 6	0 2 0	May 1868
6000	Prosper United, t, c, St. Hilary	8 14 0	—	—	0 5 0	0 5 0	Feb. 1867
1120	Providence, t, Uney Lelant†	10 6 7	26	23 25	84 12 6	0 10 0	Feb. 1868
512	South Caradon, c, St. Cleer†	1 5 0	400	—	586 10 0	6 0 0	May 1868
6000	South Darren, t, Cardigan*	3 6 6	—	—	0 11 6	0 1 6	May 1868
937	South Wh. Crofty, c, Illogan	24 10 0	16	17 19	0 10 0	0 10 0	June 1868
496	So. Wh. Frances, c, Illog.†	18 18 6	19	17 18	374 13 6	1 0 0	Mar. 1868
508	Summer Hill, t, Mold†	5 13 6	—	—	12 5 6	0 5 0	Feb. 1868
2000	Swansea, t, c, Pool, Illogan†	3 10 0	14 1/2	13 1/2 14 1/2	19 10 0	0 10 0	May 1868
2000	Trumpet Cons., t, Helston	11 10 0	—	—	12 10 0	0 10 0	Mar. 1868
3000	W. Chiverton, t, Perranzabuloe†	10 0 0	63	61 63	27 7 6	2 0 0	May 1868
4000	West Godolphin, t, c, Breage	0 1 0	—	—	0 2 0	0 2 0	Dec. 1867
400	W. Wheal Seton, c, Camborne†	47 10 0	205	192 1/2 195	499 0 0	5 0 0	June 1868
512	Wheal Basset, c, Illogan†	5 2 6	67 1/2	60 65	632 10 0	1 0 0	June 1868
1024	Wheal Friendship, c, Tavistock	20 0 0	—	—	300 10 0	0 10 0	Nov. 1866
512	Wheal Jane, s, t, Kea	10 10 0	—	—	—	2 0 0	Jan. 1868
4000	Wheal Killy, t, c, Illogan	4 6 6	2 3/4	2 3/4 2 3/4	3 7 0	0 2 0	May 1868
1024	Wheal Mary Ann, t, Menai	10 0 0	23	21 1/2 22 1/2	65 2 6	0 17 6	June 1868
80	Wheal Owles, t, St. Just†	7 0 0	—	—	350 13 0	7 10 0	Feb. 1868
326	Wheal Seton, t, c, Camborne†	58 10 0	85	72 3/4 80	254 15 0	2 0 0	Feb. 1868
3000	Whitewell Lead, Clitheroe†	0 5 0	—	—	1 0 0	0 10 0	Dec. 1867
17000	Wicklow, c, t, Wicklow	2 10 0	—	13 1/2 13 1/2	48 16 0	0 6 0	April 1868

FOREIGN DIVIDEND MINES.

Shares.	Mines.	Paid.	Last Pr.	Business.	Total divs.	Per share.	Last paid.
25000	Alamillos, t, Spain†	2 0 0	2	—	0 2 6	0 1 6	Mar. 1868
20000	Australian, c, South Australia†	7 7 6	—	—	0 1 0	0 1 0	Aug. 1867
16000	Cape Copper Mining†	7 0 0	13 1/2	12 3/4 13	3 2 6	0 10 0	Feb. 1868
30000	Central American Association†	1 10 0	—	—	—	—	—
76162	Don Pedro North del Rey†	0 14 0	2 1/2	2 1/2 2 1/2	0 17 3	0 1 6	June 1868
20000	English and Australian, c	2 10 0	—	—	—	0 1 0	Feb. 1868
26000	Fortuna, t, Spain†	2 0 0	2	—	1 9 4	0 2 0	Mar. 1868
20000	Gt. Mining Assn., Nova Scotia†	0 0 0	—	—	23 10 0	0 4 5	June 1867
10000	Leontes, t, c, £2000 £5 pd., £600 £4 pd.]	—	—	—	10 per cent.	—	July 1867
68000	Kapunda Mining Co., Australia†	1 0 0	—	4s. 6s.	0 1 4	0 6 6	May 1868
15000	Linares, t, Spain†	3 0 0	2 1/2	—	11 11 8	0 3 4	Mar. 1868
5000	Panuello, c, Chile†	3 0 0	2 1/2	—	10 per cent.	—	Yearly.
6000	Peel River Land and Mineral†	100 0 0	—	—	—	—	—
10000	Pontbaid, s, t, France†	20 0 0	—	—	5 6 2	0 11 1	May 1868
100000	Port Phillip, c, Clunest†	1 0 0	13 1/2	1 1/2 13 1/2	1 1 0	0 1 0	May 1868
20000	Scottish Australian Min. Co.†	15 0 0	1 1/2	1 1/2 1 1/2	81 10 0	4 5 0	Dec. 1867
15000	Victoria, c, South Australia†	6 0 0	—	4 1/2 5	1 10 6	0 6 0	May 1868
50000	Victoria (London) [£2000 £1 pd., £2500 12s. 6d. pd.]	—	—	—	0 9 0	0 1 0	Jan. 1868
40000	West Canada Mining Co.*	1 0 0	—	—	0 19 6	0 2 6	May 1866

NON-DIVIDEND FOREIGN MINES.

Shares.	Mines.	Paid.	Last Pr.	Bus. done.	Last Call.
100000	Anglo-Argentine, s, Argentine Republic*	1 0 0	—	—	Nov. 1866
100000	Anglo-Brazilian, c, Brazil†	0 10 0	—	7 1/2 3/4	Jan. 1868
12500	Anglo-Italian, g†	0 10 0	—	1 1/2 3/4	Jan. 1868
20000	Australian United, g	1 0 0	—	—	Mar. 1868
2464	Burra Burra, c, South Australia†	5 0 0	—	—	—
20000	Capula, s, Mexico†	1 14 6	—	—	May 1868
30000	Chontales, g, s, Nicaragua*†	5 0 0	2	1 3/4 2	Mar. 1868
12000	Cobre Copper Company, c, Cuba†	45 10 0	—	—	Jan. 1868
10000	Copapo Mining Company, Chile†	16 10 0	—	—	—
10000	Copapo Smelting, Chile†	10 0 0	—	—	April 1866
300	Copper Miners Co. of South Australia† [£50 £100 pd., £50 £70 pd.]	150 5 0	—	—	Nov. 1866
15000	El Chico Silver, g, s, and Reduction Company*	5 0 0	—	—	Nov. 1866
40000	Fortune Copper Mining Co. of Western Australia†	2 0 0	—	—	Fully pd.
50000	Frontino and Bolivia, g, New Granada*†	1 17 6	3 1/2	16s. 18s.	April 1868
10000	Great Barrier Land, Mining, &c., New Zealand†	5 0 0	—	—	Fully pd.
80000	Great Northern, c, South Australia†	1 11 0	—	—	Sept. 1862
50000	Javali, g	1 0 0	—	1 1/2 1 1/2	June 1868
7927	Lusitanian (Portugal)†	3 0 0	—	—	—
82640	Mariguita, c, s, New Granada†	1 0 0	—	—	Feb. 1868
12500	Nerbudda Coal and Iron, India†	6 0 0	—	4 1/2 5 1/2	Dec. 1867
51000	New Quebrada, c, Venezuela*†	3 10 0	—	—	—
15000	Orea, c, New Zealand†	3 10 0	—	—	Fully pd.
80000	Piedraza United, g, Italy†	2 15 0	—	2 3/8 2 1/2	May 1866
10178	Rhenish Consolidated, g, [6000 £5 pd., 4178 £2 10s. pd.]	—	—	—	June 1867
100000	Rosa Grande, g, Brazil†	0 14 0	1	19s.	June 1867
15000	San Pedro del Monte, s, Mexico*	4 0 0	—	—	Sept. 1866
10000	San Roque, l, Spain†	5 0 0	—	—	Fully pd.
100000	Taquaril, g, Brazil*	0 5 0	—	—	Oct. 1867
6000	Terresen, s-l, Isle of Sardinia†	2 0 0	—	—	—
43174	United Mexican, s, Mexico†*	28 5 2	1 3/4	1 1/2 1 3/4	May 1868
30000	Val Antigoria, g, Italy*	1 2 6	1	—	Fully pd.
6000	Val Sassam, s, c, l, Italy*†	7 0 0	—	—	Aug. 1867
40000	Victoria United, g, Italy†	1 0 0	—	—	Fully pd.
20000	Washoe, g, Nevada†	1 0 0	—	—	Fully pd.
80000	Worthing, c, South Australia†	1 0 0	—	3 1/2	Fully pd.
75000	Yorke Peninsula, South Australia†	1 0 0	—	—	Fully pd.
45000	Yudanamutamba, c, South Australia†	3 0 0	—	1 1/2 1 3/4	Fully pd.